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ABSTRACT

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VIOLATIONS OF FREGE'S PRINCIPLE AND THEIR SIGNIFICANCE FOR CONTRASTIVE SEMANTICS

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1. *Preliminary remarks*

The content of this paper has developed from more specialised investigation in other areas of semantics, particularly those of idiomaticity and prosodic meaning. Much of it has been said before by others, though in different and more heterogeneous contexts. The central point, that natural languages violate Frege's Principle (cf. § 2), has been a commonplace of logic for a century (Frege's *Begriffsschrift* appeared just one hundred years ago); many of the specific examples, too, have also received extensive, if not definitive, attention in many quarters. A unified account of these problems within a practical descriptive framework is lacking, however, and this paper is intended to contribute towards delimiting the scope of such an account. It is suggested in the final section that there may be a unified strategy for solving this apparently heterogeneous set of problems, using a specific conception of context-sensitivity.

Neither is the descriptive field of contrastive semantics a new subject; like other domains of linguistic discourse, it is nevertheless constantly in need of systematic re-statement. There have been many detailed studies of semantic similarities and dissimilarities between languages, in contrastive and in general linguistics, particularly in lexical areas (e.g. verb valencies) but also on problems of sentence semantics such as quantification, propositional attitudes, presuppositions. In this paper I shall present a slightly more general perspective, and in order to do this I shall distinguish three of the possible views of what the term contrastive semantics may mean before starting on the main body of the paper. These views are:

(1) i. that contrastive semantics is plain semantics used to describe two rather than one or nineteen languages;
ii. that contrastive semantics is essentially the description and explanation of translation;
iii. that contrastive semantics is the description and explanation of the semantic system underlying the use of more than one language by persons in communities.

These three perspectives may be thought of as being arranged roughly on a scale of idealisation. The first has the least ambitious empirical goals, but the greatest chance of providing explanation rather than just description. The last is empirically the most ambitious, and the least amenable at present to stringent explanatory description; it underlies approaches to second language learning, bilingualism and diglossia. The intermediate category is not located on a simple straight line of idealisation between these two, but it does provide a bridge between them: translation may be seen at the 'upper' end on this scale as a semantic operation over two languages; at the 'lower' end it may be seen as a form of bilingual language activity. There are other ways of bridging this idealisation gap; such notions as control of contextually determined language variation, stylistic and functional 'code' switching, would also provide bridges of different kinds. Translation provides a convenient perspective for present purposes, however, and also in many ways a realistic goal for contrastive semantics, whether theoretical or applied. The present discussion has been developed with this perspective in mind, though particular arguments have been drawn mainly from the first of the above perspectives, and an explicit model of translation which includes non-Fregean translation is not developed.

2. *Frege's Principle, idiomaticity and analysis*

In a discussion of Montague grammar, Partee states the following (1976:52):

> *the task of the semantics [associated with a particular syntax] is to assign interpretations to the smallest units and then to give rules which determine the interpretation of larger units on the basis of the interpretation of their parts.*

Similar formulations are given by Cresswell (1973:75f.), who introduces the term 'Frege's Principle' for this fundamental inductive principle of compositional semantics, defining it as

> *the principle that the meaning of any complex expression is determined by the meanings of its parts. Or to be more precise, the meaning of the whole expression is a function of the meanings of its parts.*

He provides two explications of the principle, a weaker one simply stating the function involved, and a stronger one based on the substitutability of

synonymous constituents with preservation of the meaning of the whole construction. The first will be used in this paper. In Frege's works, the principle was more implicit than explicit; it seems clear (1892 (1962:49f.)) that he took it to hold for the compositional aspects of sense (*Sinn*), but although in introducing his 'conceptual notation' (*Begriffsschrift*) he uses an inductive definition of the notion of having reference (e.g. 1893:46), it does not seem that he goes so far as to claim that the reference of a sentence when asserted, i.e. its truth value, is a function of the references of its parts (i.e. objects), contrary to Cresswell's note (1973:75). Reference assignment to sentences presupposes such references (cf. '*Voraussetzung*' in 1892 (1962:54)), but would presumably not be taken to be a function of these presuppositions. Furthermore, Frege points out in the same study (p. 52)

dass die Bedeutung des Satzes nicht immer sein Wahrheitswert ist.

This being the case, the reference of a sentence cannot be said to be a function of the references of its parts; in oblique (indirect, reported) contexts, its reference is said to be its normal sense (gewöhnlicher *Sinn*). Both sense and reference, our intension and extension, will be considered in the following discussion. The paper is not concerned with Frege exegesis, however; the Partee and Cresswell formulations will be taken to be suitable starting points. Other terms associated with extensional aspects of Frege's Principle are the following: Leibniz' Law; the principle of extensionality; the substitutability of equivalents; substitution *salva veritate*. They refer to the fundamental notion in extensional semantics that if a term with a given referent is substituted for a term with the identical referent in some sentence, then the truth value of the sentence is not affected by this substitution. Logics for which this aspect of the principle of compositionality does not hold are called 'intensional'.

Analogous principles have served from time to time in linguistic semantics; Bloomfield's semantics (1933) appears to be based on this principle, for instance. More recently, it has characterised the theories of Katz and Fodor (1963), Weinreich (1966) and others within the generative approach, where the principle has been discussed as a solution to the 'projection problem'. It is hard to decide whether generative semantics conforms to Frege's Principle or not, in view of its apparently uninterpreted deductive structure; it is probably intended to conform to the principle in many of its central concerns, however.

Perhaps surprisingly, the standard dictionary definitions of one sense of the word 'idiom' amount simply to the claim that idioms are those composite expressions which do not conform to Frege's Principle, as in the second part of the Webster's Collegiate Dictionary definition (taking 'conjoined' non-technically):

an expression, in the usage of a language, that is peculiar to itself either in grammatical

> *construction or in having a meaning which cannot be derived as a whole from the conjoined meanings of its elements.*

This kind of idiom definition is quite common in linguistics; note Hockett's well-known definition (1958:172):

> *Let us momentarily use the term "Y" for any grammatical form the meaning of which is not dedudible from its structure. Any Y, any in occurrence in which it is not a constituent of a larger Y, is an idiom.*

This definition ignores non-wellformed 'idioms', and forces Hockett to regard non-composite items, i.e. morphemes, as idioms, a highly debatable point; the phrase "in which it is not a constituent of a larger Y" deprives putative idioms of this status when embedded in a larger idiom. Similarly, Fraser stated (1970:22):

> *For the purpose of this discussion I shall regard an idiom as a constituent or series of constituents for which the semantic interpretation is not a compositional function of the formatives of which it is composed.*

Since there are many other kinds of violation of Frege's Principle than idiomaticity (cf. §3), and since the descriptions of idiomaticity given here amount to simple denials of Frege's Principle, they cannot be regarded as *sufficient* conditions for idiomaticity, though they are *necessary* conditions. They are therefore not, in any strict sense, definitions of idiomaticity at all. A similar point, though not in these terms and in a more restricted context, was made by Voitl (1969:206), who noted that the definitions also apply to metaphor; one might add irony, allusion and a host of other systematic and stylistic devices. It is interesting to observe that Hockett included a variety of linguistic forms in the category of idiom which at first sight seem to overstretch the meaning of the term: substitutes (i.e. indexical and anaphoric expressions), proper names, abbreviations, compounds (with qualifications) figures of speech and slang. But however counter-intuitive some of these categories may be as types of idiom, as Hockett described them they are all violations of Frege's Principle and their heterogeneity is simply a consequence of taking this principle to be a sufficient condition for idiomaticity.

More will be said on the subject of idiomaticity in the following two sections.

The main area of application of Frege's Principle has been in the construction of 'ideal' or 'perfect' formal languages to explicate and replace supposedly inadequate natural languages for certain logical and methodological purposes; it formed the basis of the programme of analysis whose earliest representatives were Frege and Russell, and which initiated one main branch of analytic philosophy. Cresswell uses Frege's Principle to mark a boundary between natural and ideal languages (1973:76):

> *Frege's Principle does not hold for ordinary language. Indeed, it might be plausible to*

> *maintain that this is the most crucial difference between the artificial languages we have been describing and the language we use in everyday communication.*

It is intuitively evident that, given two artificial interpreted languages conforming to Frege's Principle and having the same domain, the problems of translation (cf. Iii. in §1) are easily stated. Either the smallest constituents in each language may be translated definitionally as in word-for-word translation, with the principle of compositionality looked after by the syntax, or if the primes of the two languages are differently 'decomposed' or 'componentialised' with respect to the domain, then translation may take place between constituents at different compositional levels. Then, in the words of Haas (1962 (1968:107)):

> The discipline of translation consists very largely in choosing the smallest possible unit that will admit of adequate matching.

In natural languages this problem of 'adequate matching', i.e. an inter-language version of the synonymy problem, is far more complex. The point at issue in the present paper is that there are areas where the criterion of 'adequate matching' of constituents which have the same meaning in some sense may not guarantee the translatability of the whole. This may be illustrated by means of a referentially opaque context (cf. §3. 1.). What is the best translation of "Ceasar dixit, 'Veni, vidi, vici'"? Is it (1) "Caesar said, 'Veni, vidi, vici'", or (2) "Caesar said, 'I came, I saw, I conquered' ", or (3) "Caesar said he came, saw and conquered", or even (4) "Caesar reported on his arrival, his observations and his conquest"? Wherever further contextual considerations are required in order to make a choice, Frege's Principle is infringed; this applies to puns, metaphors, idioms and related areas, being particularly obvious with regard to *loan idioms* such as *vice versa*, *chacun à son goût*, *hoi poloi*, &c.

This is not to claim that Frege's Principle is irrelevant to natural language semantics. It is essential for characterising the clear cases where common sense, too, accepts compositionality; its function here is the complementary one of delimiting the unclear cases.

3. *Violations of Frege's Principle in natural languages*

The first thing to clarify in this context is the meaning of "meaning". Since a full discussion of this problem is not possible here, the simple Fregean distinction between sign, sense and reference will be used. The notions of associative or connotative and natural meaning may be taken as being outside the scope of Frege's Principle in the first place, while to many who hold functional or instrumental theories of 'meaning as use', the principle will seem to be a complete red herring; I shall use it as a heuristic tool. Each of the following subsections will be oriented towards the Fregean meaning triad.

The second thing to clarify is what counts, in a general sense, as a violation of Frege's Principle. There are a number of ways in which meaning composition as a function of component meanings may fail; they will be numbered according to the following failure types:

(2) i. absence of a value for a given set of arguments (opacity);
ii. presence of more than one value for a given set of arguments (ambiguity);
iii. absence of one or more arguments (context-sensitivity);
iv. indeterminacy about whether arguments or values are present, and if so which (vagueness, fuzziness).

This means taking Frege's Principle quite literally as a statement about a function in its strict technical sense in which the meaning of a given construction C is a function of the meanings of its constituents $C_1, \ldots C_n$:

(3) For $C=[C_1, \ldots C_n]$, $M(C)=M_i(M(C_1), \ldots M(C_n))$

The subtleties involved in interpreting this kind of formal conception in terms of particular problems of natural language semantics were first, and perhaps most clearly, aired by Weinrych (1966, 1966a), who also attempted to account for some types of violation of the principle such as metaphor and idiom.

3.1. *Opacity*

If the range of the function contains no value for a given set of arguments, this may mean, extensionally, that a composite (e.g. a sentence) has no extension (e.g. truth value), or, intensionally, that it quite literally makes no sense. In the former case, this holds with non-constative sentences if one accepts Austin's analysis of speech acts (1962), since it is the defining feature of non-constatives to have no truth value. The Principle can be saved here, however, if (a) all utterances are reduced to constatives; or (b) sentence extensions are generalised to cover appropriateness values of other kinds, a more Austinian solution.

Similar are Frege's '*ungerade*', Quine's 'opaque' (1960:§30) contexts such as the embedding of sentences in quotation or reported speech, or in statements of propositional attitude (e.g. belief) or in modal, future or other indeterminate statements. In these areas, no truth value may be assignable because what is expressed by the sentence in the opaque context is not literally asserted to be the case. Furthermore, the interpretation of sentences in such contexts requires reference to the context, whether of higher sentences or of the situation, and thus removes the inductive basis of Frege's Principle (cf. §3.3, §4). Such contexts, if verbal at all, are indicated by a variety of locutions aligned on a scale of explicitness from full superordinate clauses with *verba*

dicendi &c., to sentence adverbs, particles, parenthetic items and tags of various kinds. Some features of opaque contexts may also be conveyed by intonation, though this does not occur on anything like the same level of explicitness as with locutions but more allusively, by picking out a limited component of the context concerned. A survey of some of the less explicit devices in German and English which are often used for signalling opaque contexts is to be found in Bublitz (1978; cf. also Gibbon, 1976a).

Table 1.

Samples of objections to asserted preposition (P), to assertion of proposition/belief (B), and to pejoration (A).

English				*German*			
Objection	P	B	A	Objection	P	B	A
come off it	+		+	wie kannst du nur?		+	+
how could you?			+	aber nicht doch			+
steady on a bit			+	also nee	+		+
oh no	+		+	meinst du wirklich?		+	
no	(deviant)			nee	?	+	
no: (i.e. overlong)	+	+	+	das stimmt nicht	+		
that's not true	+	?		das glaube ich nicht	+		
do you really		+		du spinnst wohl	+		
well I don't	+	?		was, der soll lügen?	+	?	
well he isn't	+			der und lügen?	+		
you're crazy	+			wie kommst du denn			
what? him lying?	+			darauf?		+	
how do you know?		+					

It is instructive to examine how opaque contexts may be dealt with in dialogue in cases where the truth value or the assignment of any truth value at all is queried. Assertion of the sentence *Ich glaube, daß Hans lügt* in German, or *I think John is lying* in English can meet with doubt or outright contradiction in a number of ways. The contradiction of particular constituents in contrastive contexts will be excluded here; even so, there are still three main aspects of clause-level meaning in this example which may be called into question: (1) denial of the proposition that John is lying, or (2) of the speaker's holding of the belief, or (3) objection to utterance of a pejorative statement, interpretable as denial of the appropriateness of the value judgment.

A short selection of such rejoinders is given in Table 1; objection to the truth value assigned is symbolised by "P", to the basis for assignment of the truth value by "B" and to the appraisive component by "A". The lists, which are obviously not systematically correlated and are incomplete, show that the stereotypic expressions involved vary considerably from the one language to the other, as do their applications as objections, but they do illustrate the

simple point that opaque contexts have systematisable, if formally elusive status in natural languages and are not just logical constructs.

An illustration of the differing treatment of opaque contexts in German and English may be found in the use of the disagreement particles *nein/nee* (and *doch*) as against *no* (and *yes*) when used in isolation. The English particles tend to be used as answers to questions; in other contexts they are expanded, e.g. to *no, he isn't*. The German particles may be used with a broader range of contexts, as Table 1 shows for *nee* and *no*. I recall being surprised at one time by their use in German to operate into the narrower scope inside an opaque context:

(4) A. Es handelt sich um einen statistischen Normbegriff.
B. Das glaube ich nicht.
A. Doch!

The related English sequence is odd; a disambiquating response is required, such as "Yes, it is":

(5) A. His conception of the norm is a statistical one.
B. I don't agree.
A. Yes!

The isolated "Yes!" is interpreted as operating on the opaque context itself, not penetrating into it; under the pressure of interference from English dialogue conventions I took the wider scope (though I am assured that German native speakers often have similar reactions). The problem is closely related to the well-known '*not*-transportation' situation in English and German, where the scope of negation is narrower than would be expected from the surface syntax of the opaque context (6ii):

(6) i. Ich glaube, daß es sich nicht um einen statistischen Normbegriff hnadelt.
ii. Ich glaube nicht, daß es sich um einen statistischen Normbegriff handelt.

The ambiquity is between the 'P' and the 'B' readings of Table 1, with the 'B' or truth value gap reading overridden — a property of natural language which would no doubt have delighted Russell.

These examples illustrate something about opaque contexts in the somewhat extended sense of the term used here which is often left unspoken. This is that in ordinary give-and-take dialoque, as opposed to logic textbooks in which an omniscient logician may judge beliefs assigned to third persons to be true or false by the yardstick of his own knowledge, statements (whether of 'belief' or of 'knowledge') are always relative to the speaker making them and thus for the other participants always opaque — *errare humanum est.*

The isolated quotation contexts of text-book examples abstract away from pragmatic considerations (a case of meta-opacity, perhaps) and thereby obscure this point; opacity is clearly not a purely semantic problem.

The preceding discussion has touched mainly on referential opacity, where intensional and extensional problems come into conflict .More purely intensional cases where a composite is lacking in (literal) meaning are certain types of idiom and metaphor, and semantic anomalies, which require the use of additional principles of interpretation. The provision of contexts for anomalous readings has been discussed briefly by Katz (1972:95f.); the contexts are metalinguistic and therefore (intensionally) opaque:

(7) i. Prepositions feel oily. (Odd)
ii. The sentence "Prepositions feel oily" is conceptually absurd (Acceptable)

Weinreich (1966, 1966a) has attempted to come to grips with such selectional flexibility problems, in metaphorical and idiomatic contexts. And even Chomsky's notorious *colourless green ideas sleep furiously* has found its way in various supposedly ungrammatical permutations into a number of poetastic (and in a less tangible sense opaque) contexts in which it appears to make sense and regain grammaticality.

3.2. *Ambiguity*

If the range of the supposed function has more than one value for each argument, then there is no function at all, but a relation of some other kind. In terms of language, this case is essentially that of ambiguity, of which there are many kinds, which cannot all be accounted for in detail here. Some of the most popular targets have been the verb *be*, quantitfiers and articles, conjunctions, and the ambiguous scope of operators. There, are of course, many *uses* of ambiguity (such as metaphor, irony, punning, &c.), which can only be mentioned in passing.

Restoration of function status can occur by stipulating one *relatum* to be the value of the function; in the linguistic frame of reference this amounts to disambiguation, and the most common disambiguation procedure is to augment the verbal arguments of the function by an additional contextual argument in order to increase the selectional restrictions on possible values, as when it is claimed that, for example *visiting aunts can be dangerous* is unambiguous in context. If disambiguation is reconstructed in this way, the irrelevance of objections that such sentences are 'unambiguous in context' to the problem of constructional ambiguity becomes obvious. The items *be*, *any* and *or* will be used to illustrate this point; the disambiguating contexts involved will not be commented on explicitly, but in general they involve

the selectional restrictions of lexical entries in the immediate sentential context in the case of *be*, the auxiliary complex and syntactic function in the case of *any*, and the categorial context in the case of *or*.

In the case of *be* the following main kinds of context can be provided.

(8) i. Identity: *John is Brian's father*;
ii. Class-membership/property ascription: *Rosie is pregnant*;
iii. Role-ascription: *Tim is a teacher* (treated in practice for many purposes like ii.);
iv. Class inclusion/material implication: *men are mammals*;
v. Simple definition: *A philatelist is a stamp-collector*;
vi. Definition by *genus proximum et differentia specifica*: *Funkanlagen sind elektrische Sendeeinrichtungen sowie elektrische Empfangseinrichtungen, bei denen die Übermittlung oder der Empfang von Nachrichten, Zeichen, Bildern oder Tönen ohne Verbindungsleitungen oder unter Verwendung elektrischer, an einem Leiter entlang geführter Schwingungen stattfinden kann* (*BRD, Gesetz über Fernmeldenanlagen*), in which the meanings of the constituents of the *definiens* are assumed to be evident or known by previous definition.

Quantifiers and articles provide the broadest and trickiest field, since their ambiguity is often coupled with use in opaque and vague contexts. The most notorious example in English is *any*, whose major uses are as follows:

(9) i. universal quantifier in general, opaque modal or future contexts: *any philosopher knows his Aristotle, anyone can do that* (or the next to the last sentence in §3.4. below);
ii. explicitly or implicitly universal quantifier in non-opaque contexts: *he accepted anything he was given, anyone came*;
iii. 'existential' quantifier in non-assertive contexts: *he didn't see anybody, did you see anybody*?;
iv. as an appraisal/quality-marked existential quantifier in contrastive dialogue contexts, as in A: *Did you manage to get any cheese*? — B: *Yes, but not just any cheese — I got Red Windsor.*

Note that in the last example it is not sufficient simply to specify 'contrastive intonation' here, since the variety of intonation contours which may occur are not *per se* contrastive. It is the dialoque context which defines contrastivity; assignment of contrastivity to intonation alone is a typical case of the notional fallacy in intonation description, in which notional terms are used to label intonation forms which are then assumed to be identified and are then adduced to illustrate the notion: a vicious circle (cf. Gibbon 1981).

The fact that several different factors, each of which may contribute

to violation of Frege's Principle, simultaneously determine the meaning of quantified items makes the translation problem extremely complex and perhaps even of the same order as idiom translation, as the following examples show.

(10) E. Any philosopher knows his Aristotle.
G. Wer Philosoph ist, kennt seinen Aristoteles.

(11) E. Anyone can do that.
G. Das kann doch jeder.

(12) E. Anyone came.
G. Alles/jeder kam.

(13) E. He accepted anything he was offered.
G. Er nahm alles, an, was ihm geboten wurde.

(14) E. He didn't see anybody.
G. Er hat niemand(en) gesehen.

(15) E. ... but not just any cheese...
G. ... aber nicht irgendeinen Käse ...

These problems are related to the question of context-sensitivity dealt with in the following section.

The ambiguity of conjunctions may be illustrated by *or*, as follows (in German, *oder* additionally occurs as a question tag):

(16) i. truth function: $p \equiv q$ (inclusive *or*);
ii. truth function: $-(\equiv q)$ (exclusive *or*);
iii. pragmatic negative conditional: *stop it or I'll leave*;
iv. appositive definition: *the turdus musicus, or songthrush*;
v. discourse correction: *Tom, or rather his dad, ...*
vi. other non-sentential disjunction: *is it in or on the box*?

A fourth type of logical ambiguity, scope ambiguity, was discussed above in connexion with opaque contexts and is particularly interesting when the scopes of two operators (e.g. two quantifiers, or quantification and negation) are concerned, as in (18) and (19).

(17) He's not leaving because it's late.
(18) Everybody isn't coming.
(19) i. Everybody loves somebody.
ii. Somebody is loved by everybody.

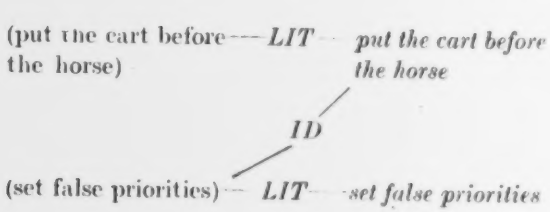
In (19), each of the examples is potentially ambiguous, though the linear order

of the quantifiers tends to create preferential interpretations. Judgments vary greatly here, however.

The more narrowly linguistic types of ambiguity, i.e. lexical, phrasal and transformational ambiguity, require no special mention here; they overlap in part with the types of ambiguity mentioned above (e.g. phrasal ambiguity is scope ambiguity of lexical items, roughly speaking).

A number of natural language ambiguities often seem to be beyond the scope of formal explication or at least at the edge of the range of present techniques. Idioms have already been mentioned as not conforming to Frege's Principle; one of the reasons for this is that many of them, especially the more conspicuously idiomatic 'tournures' (Makkai, 1972), are ambiguous between their literal and idiomatic meanings. In fact, in the idiom theory of Chafe (1968; 1970) idiomaticity was reduced in effect to a special form of paraphrase and, complementarily, ambiguity, which may be represented by the following arrangement:

(20)



The abbreviations '*LIT*' and '*ID*' mean literal and idiomatic meaning-form relations respectively.

These intentional ambiguities may be supplemented by the types of extensional ambiguity found in Hockett's discussion of monomorphemic 'idioms' (1958:310ff), mentioned in §2 above, in particular 'substitutes' (items such as pronouns, and other indexical or class terms such as numerals, which have anaphoric and other 'constant shifting' of reference), and personal proper names which, in addition to non-unique reference (differing in this from strictly logical proper names, which do not exist in natural languages), often have intensional idiomatic status by virtue of the difference between etymology and actual use — *Smith*, *Baker*, etc. Though this has been suggested for my own surname it is, perhaps fortunately, merely a diminutive of *Gilbert* and homonymous with a loan word from a South-East Asian language, rather than an idiom or even a metaphor. Extensional ambiguity has been seen as a property of the indefinite quantifiers *a*, *any*, *some*, *many*, *few*, &c. (cf. Russell (1919:167) on 'indefinite (or ambiguous)' descriptions). There is a well-known class of role-ascription terms (cf. 8iii. above) in which German, French and other

languages differ from English in lacking the 'ambiguously referring' article:

(21) E. He is a teacher.
G. Er ist Lehrer.
F. Il est professeur.

The subclass covers socially fixed, (positively or negatively) appraisive characteristic roles, and even affliction by chronic ailments. Such role ascriptions are language (or culture) specific and some of the following German role ascriptions would have an article in French or be expressed by a non-substantival circumlocution in English (e.g. 'suffers from asthma' for 'ist Asthmatiker'):

(22) Er ist Lehrer/Ingenieur /Politiker/Sozialist/Vater/Briefmarkensammler/Hobbyjäger/Trinker (i.e. alcoholic)Spieler (i.e. gambler)Asthmatiker.

This 'ambiguous' use of the indefinite article is perhaps better thought of as a non-referring use, the nominal being a general term. There are referential (so-called [+specific] but ambiguous, 'unidentified' (so-called [—definite] uses (cf. also Strawson, 1950 (1968:83)) such as *I came across a rabid fox*, where a referent exists or existed, but further identification is considered irrelevant. In dialogue contexts, such non-identifying references may be said to be pragmatically unambiguous for the speaker but pragmatically ambiguous for the hearer; a detailed pragmatic rather than semantic explanation cannot be given here, however.

3.3. *Context-sensitivity*

If one or more arguments are absent, there can be no value assignment by the function. Examples have been given at various points under the previous subheadings, and, taken at face value, this is precisely the kind of problem which Frege's Principle was designed to delimit; the case which most readily springs to mind is that of truth value gaps due to simple presupposition failure (note also the opacity discussion in §3.1.). Outside the immediate scope of the principle, and considerably more interesting from the linguistic point of view (Chomsky 1981), are absent but recoverable argument *names*, i.e. ellipsis, whether overtly context-determined by anaphora of various kinds, or determined by general conventions of other types as with referentially 'ambiguous' objects, cf. *Jack's eating* (*something*), or imperatives, as in (*You*(*will*)) *close your eyes.*

A marginal, and anecdotal, case in which presupposition failure is sometimes deliberately used in a natural language context may be seen in what counts as 'permitted' verbal deceptions on April Fools' Day. In some areas the

only permitted verbal deceptions are those based on presupposition failure, not on assertion of a falsehood; this is true of the West Riding of Yorkshire, where I grew up. One could say, for instance, *Look out of the window!*, or *What's that?* and, if the addressee looked and there was nothing there, exclaim *April fool!* Should he protest *But there's nothing there, you liar!* the standard escape would be *I never said there was, did I?* It was considered unfair to assert something falsely, as in *Look, there's a circus just going past!* In many places the rules of the game appear to be less rigid, and falsehood rather than presupposition failure is permitted. In German, where the ritual unmasking phrase *April, April!* is used, similar considerations apply.

The most important property of solutions for cases in which arguments or argument names are lacking is, as has already been noted, sensitivity to context: the remaining arguments, or an additionally adduced contextual argument, are utilised in order to recover the 'missing' information. This approach may perhaps be seen as an attempt to bridge the divide between contextual and non-contextual theories of meaning. One special area which may be examined with this strategy in mind is that of speech act idioms.

Sadock (1974) suggested that amongst the indirect speech acts two types may be distinguished which have the properties of idioms and metaphors respectively. His conception of idiomaticity is not entirely explicit; it is partly diachronic, with idioms (his example is *down in the dumps*) originating in the metaphorical *use* of a locution which in time became its fixed *meaning*. Synchronically, the traditional definition by denial of Frege's Principle (cf. §2) seems to be implied by the formulation 'aspects of semantic structure can be idiosyncratically substituted for to form idioms'. A synchronic distinction between metaphor and idiom is ascribed to the syntactic frozenness of idioms in contrast to the syntactic freedoms available to metaphors. Sadock shows that the indirect speech act type *Will you shut the window* is more 'frozen' than the type *When will you shut the window*, each being superficially ambiguous, though intended as requests. The question which arises here is whether the notion of meaning used in Frege's Principle can be stretched to cover illocutionary force. With explicit performatives there is no problem: meaning and illocutionary force coincide. It seems to me that the answer to the question for other speech act types must be negative, since the only relatively explicit attempt to characterise illocutionary force (Searle, 1969) is clearly a pragmatic theory which refers to speaker, hearer, normal input/output conditions, and other contextual factors. Both 'speech act idioms' and 'speech act metaphors' are explainable as being sensitive to context, the idiom criterion of 'frozenness' being syntactic stereotypy rather than semantic idiomaticity. Searle (1976) has also criticised Sadock's view, pointing out that there are other kinds of locution which would qualify as speech act idioms in a stricter sense; an example would be *How about a coffee break?* Indirect speech acts, whether stereotypic or

not, share with other violations of Frege's Principle the property of ambiguity; the addition of a contextual argument to the function (specifiable in an appropriate theory of conversational ellipsis, cf. Grice's 'conversational implicature', 1975) makes this kind of violation of the principle soluble by analogy with treatment of other kinds.

3.4. *Vagueness*

Next to ambiguity, vagueness in natural languages has been most frowned on by logicians and is perhaps the most general kind of violation of Frege's Principle. Vagueness amounts to not being able to give boundary criteria for membership of a set: where does acquaintanceship stop and friendship begin, or (assuming the scale is a simple one) where does friendship stop and love begin? Or, to take an example from relative terms with more concrete domains, when does an object cease to be warm and become hot? Vagueness (indeterminacy, fuzziness) was pointed out as a problem for linguistic semantics by Bolinger (1961; 1965), and the removal of natural language vagueness by 'analysis' or 'explication' was part of the programme of the constructivistic branches of analytic philosophy. It has received much attention by logicians and linguistic semanticists in the past two decades (cf. Lewis (1972) and the survey and elaboration in Eikmeyer and Rieser (1978)). Vagueness should not be confused with ambiguity, where the choice between membership of two sets is determinate, or with hyperonymy (generality), as with *it was an animal* vs. *it was a mole*. There are vagueness markers in many areas of language, from degree adverbs (*about, fairly, somewhat,* &c.), to the natural existential quantifiers (*some, many, most,* &c.) and metacommunicative parentheses like...or *something, you know,* &c., or dummy nouns (e.g. *thingummy*). Structural vagueness, or 'squishes' (e.g. 'nouniness' from proper names to de-sentential NPs), will not be considered here.

For contrastive semantics, some of the greatest problems to do with vagueness occur in word semantics, particularly in the fact that different vocabularies (whether different technical registers of the same language, or different dialects and languages) not only 'slice up' the world in different ways, they also anchor the words they contain at different points on various semantic scales such as those of magnitude, generality, and vagueness, which represent possible parametrisations for the 'adequate matching' problem of §2.

A suitable illustration may be found in English *political*, with relatively restricted collocability, in contrast to German *politisch* which may be collocated in compounds with a wide variety of terms referring to different aspects of social structure for which a government may feel itself responsible: *familienpolitisch, aussenpolitisch, kirchenpolitisch, verkehrspolitisch, steuerpolitisch, parteipolitisch,* &c., of which only the last has a close cognate in English. The

borders are further delimited in English by *policy* vs. *politics*, implying, by dubious bilingual criteria, that German *Politik* is ambiguous. As any teacher of English knows, it is often hard to persuade German students of this 'ambiguity', which is in fact a complex distinction of generality, vagueness and ambiguity. It would be too complex a task to explicate the relation of vagueness to context-sensitivity here; a detailed analysis on such lines is given by Eikmeyer and Rieser (1978).

4. *Conspectus and conclusions*

Frege's Principle was used in the preceding sections to provide a backcloth to a systematisation of some problems of contrastive semantics, in particular ambiguity, idiomaticity and contextual recoverability of meaning. The informal contrastive perspective was provided by the field of translation. One of the methodological points raised at the beginning of the paper was whether the tion of a violation of Frege's Principle provided a unified domain of investigation; the complementary domain, that of Frege's Principle itself does provide such a unified domain with respect to the 'clear cases' of semantics. In the light of the discussion of particular types of possible violation of the principle it appeared that the key to this point was the notion of context-sensitivity: a kind of contextual 're-Fregeanisation' was suggested for the interpretation of ambiguities, idioms, opaque contexts and vague contexts. The inductive Fregean type of interpretation may be illustrated by means of the structural schema (23i), and that of contextual interpretation by means of schema (23ii):

(23) i. ii.

In (23i) the meaning of *A* is assigned as a function of the meanings of *B* and *C*; in (23ii) the meaning of *A* is assigned as a function of the meanings of *B*, *C* and *E*; the schemata may be illustrated with reference to examples (7i) and (7ii) respectively, where the unacceptability reading of *prepositions feel oily* in the first case does not hold in the (opaque) metalinguistic context *the sentence ... is conceptually absurd*. In such cases the interpretation function has to reach outside the cyclical domain of application in order to provide a reading for this domain.

The notion of context was systematically used in the Katz & Fodor theory

of semantic interpretation (1963; 1972) for the specific purpose of disambiguation. Their use of context was strictly Fregean, however: within the domain *A*, *C* was taken as a context for the possible readings of *B*; in Weinreich's theory of idioms a central point was mutual selection of *B* readings by *C* and of *C* readings by *B* (1966). Oddity of the reading for *A* resulted from incompatibility of the readings for *B* and *C*. This kind of context-sensitivity may be termed *local context-sensitivity*. In schema (7ii), on the other hand, a different kind of context-sensitivity is involved, which may be termed *non-local context-sensitivity*. The suggestion may therefore be made that it is just such a notion of non-local context-sensitivity of semantic interpretation which characterises the various violations of Frege's Principle. This suggestion cannot be taken further here, but it seems likely that some problems of domain-bounding which lie on the borders of syntax and semantics and which have received considerable attention within generative linguistics in recent years (cf. Koster 1978; Chomsky 1981) have more than a superficial structural similarity to the problems of violation of Frege's Principle which have been discussed here, and that the notions of local and non-local context-sensitivity may provide a conceptual bridge between the two areas. If this is so, then a generalised notion of locality as postulated here must be explicated, as a next step, in terms of possible well-defined domains: subcategorisational, clausal, sentential and discourse domains, each relevant for a subset of violations of Fregean semantic interpretation.

The Katz and Fodor theory may be taken as a point of orientation for the aspect of translation, too, despite the reservations which have been expressed on many sides about the structure and scope of the theory, and turning into a virtue one criticism which Lewis (1972:169) made:

> *Semantic markers are symbols: items in the vocabulary of an artificial language we may call Semantic Markerese. Semantic interpretation by means of them amounts merely to a translation algorithm from the object language to the auxiliary language Markerese.*

Critics of the theory overlook the model-theoretic intentions of Katz and Fodor (1963:183); the realisation of these is not immune from criticism but does indicate a possible line of investigation for translation theory which is not unrelated to earlier work on idioms in the context of translation by Bar-Hillel (1955), who was later one of the strongest critics of the Katz and Fodor approach. Dictionary entries (cf. also Katz, 1972) are sets of functions (i.e. sets of 'paths') from words to sets of semantic components (markers, distinguishers, disjunctions of local context-restrictions) and projection rules are functions from pairs (in a binary P-marker) of sets of components to sets of components; the projection functions take local context-sensitivity into account. This formulation makes clear both the model-theoretic character of the theory and the import of Lewis' description: intensions in the Katz & Fodor theory are

paths and projection rules; extensions are sets of components. If, as with Lewis, the markers are given linguistic rather than some other ontological status, then we have an elementary and inexplicit model theory interpreted as a translation theory. If, as Katz & Fodor presumably intended, they have some other kind of status, then the semantic model may be associated with, for instance, a psychologistic ontology.

The ontological issue is not of central importance in linguistic semantics, however, though it is certainly in need of more clarification than it generally gets. The most appropriate stance for a linguist on this issue is probably that of the agnostic. If a semantic theory makes it possible to state problems and seek solutions in such areas as translation, or idiomaticity and other areas where Frege's Principle is violated, or in developing a useful notion of context in semantic interpretation, then this is justification enough. Ontological issues need not be too worrying; indeed, the linguist might derive comfort from the fact that these problems are not completely solved either in the Tarskian or Carnapian leaps between formal and material modes of speech, or between state descriptions and states, in logical semantics itself.

Postscript

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WRITING A CONTRASTIVE GRAMMAR OF ENGLISH AND DUTCH. THE TREATMENT OF MODAL NOTIONS

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A. *The Nijmegen Contrastive Grammar*

Anyone setting out to write a contrastive grammar of two languages should take at least two questions into account:

1. what is the purpose of the grammar?
2. what students is it intended for?

Since to a large extent the answers to these questions determine the grammar's nature and scope, we shall use them as our starting point to explain what we think a contrastive grammar of English and Dutch might look like.
It is necessary to distinguish in principle between two kinds of contrastive grammars:

1. pedagogical contrastive grammars
2. theoretical contrastive grammars

We believe that pedagogical contrastive grammars should start virtually from scratch, taking little for granted. They should be written for intermediate students who know some of the basic facts of the grammar of the target language, but have not yet mastered it completely. The purpose of this type of grammar, in other words, is threefold:

1. to provide information about the facts of the target language
2. to illustrate similarities and differences between the two linguistic systems involved
3. to facilitate the teaching and learning of the target language

A pedagogical contrastive grammar is thus an attempt to achieve several goals simultaneously. The views underlying it were formulated by Fries in *Teaching*

and learning English as a foreign language, who claims that

> *"only with sound materials based upon an adequate descriptive analysis of both the language to be studied and the native language of the student (or with the continued expert guidance of a trained linguist) can an adult make the maximum progress toward the satisfactory mastery of a foreign language"* (1945 : 5);

as well as by Lado in *Linguistics across cultures: applied linguistics for language teachers*, who argues that

> *"The teacher who has made a comparison of the foreign language with the native language of the students will know better what the real learning problems are and can better provide for teaching them. He gains an insight into the linguistic problems involved that cannot easily be achieved otherwise"*. (1957 : 2).

Theoretical contrastive grammars, on the other hand, are based on a particular theoretical framework (say transformational grammar or case grammar. Cf. Fisiak, Lipińska-Grzegorek and Zabrocki 1978). This kind of approach is advocated, for example, by Stockwell, who writes:

> *"the least one could ask for is the display of a wide range of deep structures and an exemplification, perhaps rather loose, of the major syntactic rules that convert them to appropriate surface structures in the two languages. At least for the languages of most interest in American schools, the deep structures share an enormous amount of similarity and the differences of surface structure result from the existence of different transformational rules"* (1968 : 22).

Since the sole purpose of such grammars is to provide explanations for and insights into contrastive problems, and since the treatment of such problems will only be understood by advanced students familiar with not only the linguistic theory being applied but also the grammatical systems of the two languages involved, it is clear that a theoretical contrastive grammar is quite unsuitable for teaching the grammar of the target language.

The Nijmegen Contrastive Grammar of English and Dutch is a pedagogical contrastive grammar. It is only concerned with syntax, not with phonology or the lexicon, and is primarily designed to meet the needs of first-year university students of English. Given this category of students, the first question to be answered is which approach to adopt in the presentation of the material. Theoretically there are two possibilities:

1. *either* the (basic) facts of English grammar are presented first, followed by a discussion of contrastive problems
2. *or* the (basic) facts of English grammar are from the outset systematically related to the corresponding facts in Dutch.

Since first-year students have no more than a fairly elementary knowledge of English grammar, we believe that it is pedagogically more useful to adopt the non-integrated approach.

Accordingly the Nijmegen Contrastive Grammar of English and Dutch consists of three main parts:

I. Introduction
II. The Structures of English and Dutch compared
III. Notions and functions

I. *Introduction*

After a brief discussion of general questions such as 'What is grammar?' and 'What is contrastive grammar?' (1.0), we present an outline of the grammar of English based on the units of grammatical description (1.1). The purpose of Part I is to provide the beginning student with the necessary information about English structures and with clear working definitions of the most important grammatical terms, so as to enable him to read Parts II and III without too much difficulty. Using Halliday's notion of the rankscale, we discuss the morpheme, the word, the phrase, the clause and the sentence, together with relevant grammatical categories such as number, gender, person, case, mood, voice, aspect, etc. In 1.2 we deal with the functions in the English sentence (subject, direct object, etc.) and the various linguistic structures by means of which these functions can be realized. Part I therefore looks as follows:

1.0 What is grammar? What is a contrastive grammar?
1.1 The Units of grammatical description
  1.1.0 Introductory: the grammatical rankscale
  1.1.1 The morpheme
  1.1.2 The word
  1.1.3 The phrase
  1.1.4 The clause
  1.1.5 The sentence
1.2 Functions and their realizations

Naturally we do not claim that, if students know the facts presented here, they know enough about English grammar. What we do claim is that this outline can serve as a basis for Parts II and III and as an adequate introduction to more comprehensive grammars, which will have to be studied later, such as Quirk & Greenbaum, *A university grammar of English* and Quirk et al., *A grammar of contemporary English*.

Our grammar is theoretically a compromise and so is its terminology, although in very general terms it falls within the tradition of British linguistics; it is compatible with the compromise position adopted by the Quirk grammars. Although we believe that, at some stage, students should be introduced to linguistic theories, we think that they should first thoroughly familiarize themselves with the facts of English grammar before attempting to tackle questions that have to do with the explanation of these facts.

II. *The Structures of English and Dutch compared*

Part II is the central part of our grammar, in which we attempt to systematically discuss those structures of English and Dutch that appear to us to be relevant from a contrastive point of view. On the whole the emphasis is on differences rather than similarities.
We have adopted the following provisional outline of Part II:

1. the noun and the noun phrase
2. the adjective and the adjective phrase
3. the adverb and the adverb phrase
4. the verb and the verb phrase
5. the preposition and the prepositional phrase
6. the simple sentence
7. the complex sentence

In order to illustrate the kind of approach we have in mind we shall give some examples:

The Structure of the noun phrase in English and Dutch

Among the most striking differences between English and Dutch noun phrases is the fact that Dutch NP's can have very complex premodificational structures which English does not allow. Compare:

Een door mijn vader in 1950 geschreven brief	— A letter written by my father in 1950 (lit.* A by my father in 1950 written letter)
Een van alle humor ontblote beschrijving	— A description devoid of all humour (lit.* An of all humor devoid description)
Een voor dit doel ongeschikt boek	— A book unsuitable for this purpose (lit.* A for this purpose unsuitable book)

The Tense-systems of English and Dutch

Among the differences that deserve comment are the use of the past tense in English in sentences with an adjunct referring to past time, where Dutch employs the present perfect (e.g. Du. *heb ... geschreven* and *is... gestorven*):

Ik heb die brief gisteren geschreven	— I wrote that letter yesterday
Mijn vader is in 1976 gestorven	— My father died in 1976

Equally important is the use in English of the present perfect, the past perfect and the future perfect in sentences like the following, where Dutch employs

the present or the past tense (e.g. *is* and *woonde*):

Jan is al 5 jaar professor	— Jan has been a professor for 5 years
Vorige maand woonde hij precies 10 jaar in Amsterdam	— Last month he had lived in Amsterdam for exactly 10 years
Volgend jaar is zij 25 jaar getrouwd	— Next year she will have been married for 25 years

Relative clauses in English and Dutch

Unlike English, Dutch does not allow non-introduced restrictive relative clauses, nor relative clauses with extraposed prepositions:

The book you bought is too expensive	— Het boek *dat* je gekocht hebt is te duur
The way he did it was perfect	— De manier *waarop* hij het deed was perfect
The man you gave your telephone number to was my boss	— De man *aan wie* jij je telefoonnummer gaf was mijn baas
Is this the address you were looking for?	— Is dit het adres *waarnaar* je zocht?

Word-order in English and Dutch

Sentence-initial adjuncts cause inversion in Dutch, but not, as a rule, in English:

Then he told me that he was ill	— Toen vertelde hij me dat hij ziek was (*lit ... then told he me)
Sometimes I am lazy	— Soms ben ik lui (*lit ... am I lazy)

In subordinate clauses, Dutch, unlike English, often has special word-order:

I know that John is ill	— Ik weet dat Jan ziek is (*lit. ... that John ill is)
You don't understand why I admire her	— Jij begrijpt niet waarom ik haar bewonder (*lit. ... why I her asmire)

Concord of number in English and Dutch

There is no subject-complement concord in Dutch in sentences like the following:

His brothers are officers in the army — Zijn broers zijn officier in het lager (*lit. ... are officer in the army)

Mary and Susan are actresses — Mary en Susan zijn actrice (*lit. ... are actress)

So far we have briefly discussed the first two Parts of our proposed grammar: I, the Introduction, and II, The Structures of English and Dutch compared. In the second half of our paper, we shall devote some attention to Part III of the Nijmegen Contrastive Grammar of English and Dutch, and illustrate, in particular, how we deal with modal notions and the language functions associated with them.

B. *The Treatment of Modal Notions: Exemplification*

Modality is recognized as one of the major notional categories. Thus, according to Wilkins (1976:21—22), modality is one of three distinct types of meaning that can be conveyed in the uttering of a sentence. The other two are the "ideational" or "propositional" meaning (expressing our perceptions of events, processes, states and abstractions) and the "interactional" meaning (involving the role an utterance performs as part of the interactive processes between the participants, i.e. what we can *do* with language). Modal meaning, on the other hand, has to do with the speaker's attitude towards what he is saying. As Wilkins puts it, the speaker may, for example, wish to express the degree of validity that his statement has, either representing it as simply an objective truth, or indicating that the ideational meaning is subject to some contingency, is desired rather than positively asserted or is potential rather than actual.

Following Wilkins (1976:38), we will thus define a modal sentence (utterance) as one in which the truth of the predication is subject to some kind of contingency or modification. The utterances we have mind are those in which the speaker wants to express, for example, that there is an obligation, a necessity, a possibility or an intention that something should be so (should have been so). The two main categories of modal meaning usually distinguished are called *logical* and *moral*, or *epistemic* and *non-epistemic* respectively. Epistemic modality involves objective and personal assessments of the validity of the predication, and includes such notions as certainty, logical necessity, probability, possibility, conviction, conjecture, doubt and disbelief. Philosophers and linguists have associated these modal meanings with a "scale of certainty". Non-epistemic modality, on the other hand, has to do with degrees of moral undertaking and responsibility, whether on the speaker's or on someone else's part, and involves a "scale of commitment". This scale includes notions like intention, volition, permission, prohibition, obligation/necessity, duty, etc.

One interesting syntactic difference between the epistemic and non-

epistemic uses of modal auxiliaries in English is that with epistemic modals it is the full verb, not the modal itself, which is normally marked for past tense. There are some exceptions to this rule, but it emerges clearly as a general pattern. Thus, the past time equivalent of *John may do it tomorrow* is not **John might do it yesterday* but *John may have done it yesterday*, with *have* as the verbal marker of the past. Similar cases are *John will have done it yesterday*, *John must have done it yesterday* and *John can't have done it yesterday*. When used non-epistemically, modal auxiliaries cannot normally occur in the past tense either, unless the past tense form is used in a tentative sense or occurs in reported speech. In such cases, the *may* of permission changes into *was allowed to* for past time reference, not into *might*. Similarly, the *must* of obligation becomes *had to* or *was obliged to*.

Another difference is that epistemic modals, or rather the epistemic uses of modals, usually co-occur with main verbs denoting a present state or habit, or with main verbs in the progressive. *Must*, for example, which may be epistemic or non-epistemic, is epistemic (denoting logical necessity) in examples like *John must be at home now* and in *Paul must be leaving tomorrow*. Otherwise, in *John must go home now* or *Paul must leave immediately*, *must* can only be interpreted non-epistemically, expressing an obligation or a command.

Epistemic modal notions are parallelled by language-functions such as "expressing/inquiring whether something is considered a logical conclusion (deduction)", "expressing how certain/uncertain one is of something" and "inquiring how certain/uncertain others are of something". Non-epistemic modal notions correspond with language-functions such as "expressing that one is/is not obliged to do something", "inquiring whether one is obliged to do something", "giving and seeking permission to do something", "inquiring whether others have permission to do something", and "stating that permission is withheld" (see Van Ek (1975:19—20)).

Both English and Dutch possess a great variety of grammatical, lexical and phonological devices to express modal notions. The exponents of these notions include such distinct categories as modal particles, moods of the verb, modal auxiliaries, modal uses of some of the tenses, and lists of lexical items expressing the various modal meanings. It is clear that the two languages do not have the same set of linguistic devices at their disposal for the expression of modal notions.

By way of illustration, we shall briefly discuss our treatment of one epistemic and one non-epistemic notion. The epistemic notion that we have chosen for our present purposes is that of ***possibility*** and the non-epistemic one is ***permission***. They are representative of the way in which we deal with ***logical necessity*** and ***probability*** on the one hand, and ***obligation/necessity*** and ***prohibition*** on the other. Our two sections ***possibility*** and ***permission*** are added here as an appendix. We wish to emphasize that these are, of course, prelimin-

ary versions. Each section is subdivided into three parts. The first part is a short introduction, in which an attempt is made to describe the notion and, if necessary, to distinguish it from related notions. Thus, in the case of *permission* we state that this notion and the language-function related to it normally imply two human participants with different roles: one that gives permission and another who gets permission to do something. Apart from giving or seeking permission, speakers may also report permission or inquire whether permission exists.

Epistemic notions like *possibility* are less easy to define, apart from saying, perhaps rather vaguely, that they have to do with the speaker's assessment of the validity of what he is saying. We have refrained from such definitions and have decided to warn our students that there is no one-to-one relationship between this notion and a particular linguistic form, and that this may lead to ambiguity.

The second part of each section is devoted to the ways in which the notion can be expressed in English. *Possibility*, for example, can be expressed by means of the modal auxiliaries *can (could)* and *may (might)*, by means of phrases like *it is possible that ...*, *it is possible to ...*, *there is a possibility that ...* and *is there any possibility that ...*, and also by means of the adverbs *possibly*, *perhaps* and *maybe*. In our section on *permission* we discuss the differences in meaning between the exponents *can (could)* and *may (might)* in statements and in questions, then go on to talk about the use of *be allowed to* and *be permitted to*, the use of the negative phrase *not be supposed to*, as in *I am not supposed to tell you*, and the use of the verbs *let* and *mind*, as in *Do you mind if I smoke?* Finally, under f, g and h, we deal with a number of formal and informal expressions that can be used to give or seek permission.

Part 3 of each section is always entitled *English and Dutch compared*. Contrastive points are arranged according to relative importance and frequency, but structures or expressions belonging to the same linguistic category are grouped together. In this way we provide a survey of all the important devices that English and Dutch possess to express a notion, pointing out what the differences between the two languages are, both semantically and syntactically. The kinds of facts that we draw our students' attention to in this part of the grammar are:

(1) the formal differences between the modals in English and Dutch and the use of suppletive forms in English,
(2) the various meanings of certain English verb forms and their Dutch equivalents,
(3) the range of devices in the two languages to express modal notions, and
(4) translation problems on a lexical level, such as the translation of Dutch *onmogelijk* by *not possibly*, rather than **impossibly*, in sentences like *I cannot possibly come* (Du. *Ik kan onmogelijk komen*).

APPENDIX

POSSIBILITY

1. In what follows an attempt is made to separate the notion of possibility from other notions such as permission and ability, which are often expressed in the same way. The following sentence, for instance, is triply ambiguous, since the auxiliary *can* can express possibility as well as permission and ability:

   Can you tell us where he is now?

   It is usually the context that disambiguates such sentences.

2. *Possibility can be expressed in the following ways:*

   a. by means of the auxiliary *can (could)* .

   Examples:

   Such things can happen
   Students can be called up for military service in this country
   I can tell you later, if you like
   This park can be closed in the evening
   You cannot be serious about this
   I don't know where he is, but can he be reading in the library?

   Could is used with reference to past time and to express hypothetical and tentative possibility.

   Examples:

   Last year you could buy that car for less than £ 3000
   In those days you could be arrested for critizing the Government
   Since our neighbours had a swimming-pool, the children could swim all day
   If you removed that wall, the house could collapse
   We could go and see them tonight
   That information could be valuable

   b. by means of the auxiliary *may (might)*, which often expresses possibility and uncertainty at the same time.

   Examples:

   If you leave now, you may get there in time
   Geoffrey may finish his dissertation before the end of the year
   Aspirin may cure your headache
   You may be right

   A distinction is sometimes drawn between 'factual possibility' (expressed by *may*) and 'theoretical possibility' (expressed by *can*). For example:

   This park may be closed in the evening (= It is possible that this park will be closed in the evening)
   This park can be closed in the evening (= It is possible for this park to be closed in the evening)

   In formal English 'theoretical possibility' can also be expressed by *may*.

   When followed by a perfect infinitive *may* is normally used rather than *can*:

   We may have made a mistake
   • We can have made a mistake

   I may have told you this
   • I can have told you this

On the other hand, *can* is used rather than *may* in questions and in negative sentences expressing impossibility:

Can he be serious about this (=Is it possible that ...?)
* May he be serious about this?
He cannot be serious about this (=It is impossible that...)
* He may not be serious about this.

The last sentence is of course correct when the meaning is 'It is possible that he is not serious about this'.

Might is used to express hypothetical and tentative possibility:

If you did that, he might get very angry
We might go to the pictures next Sunday
It might rain tomorrow
Do you think he might refuse?

c. By means of the phrases *it is possible that ..., it is possible (for ...) to, there is the/a possibility of ..., is there much/any possibility of ...?*
Examples:

It is possible for students to register from the beginning of next week
It is possible that you fail a second time
It is possible (for him) to sit the exam again
There is the possibility of an accident
Is there any possibility of your going tomorrow?

Note the difference between

It is possible for him to sit the exam again (=theoretical possibility)
It is possible that he sits the exam again (=factual possibility)

d. By means of the adverbs *possibly, perhaps* and *maybe*

Is John intelligent? Possibly.
Can you possibly lend me a fiver?
I cannot possibly come
Perhaps he is ill
Maybe he doesn't like you

3. *English and Dutch compared*

The following points deserve comment:

a. the examples below show that Dutch can use the verb *kunnen* independently (i.e. without an infinitive) to express possibility. The auxiliaries *can* and *may* cannot be used in this way, except in cases of ellipsis (as in the last two examples). The corresponding English sentences require the phrase *be possible:*

Dat kan	— That is possible
Vroeger kon dat	— That used to be possible
Kon dat maar	— If only that was/were possible
Dat heeft ooit gekund	— That was possible at one time
Dat zal niet kunnen	— That will not be possible
Had dat maar gekund	— If only that had been possible
Dat kan heel goed	— That's quite possible
Kan dit raam open? Natuurlijk	— Can this window be opened? Of course it can.
Denk je dat ze vanmiddag komt? Misschien.	— Do you think she'll come this afternoon? She may.

b. Note the independent use of the verb *kunnen* in cases like the following:

Kan je koffer nog dicht?	— Will your suitcase still shut?
Kan die rommel weg?	— Can this rubbish be thrown out?
Kan die prijs niet wat omlaag?	— Can't you knock off something?
Deze imperiaal kan er in een mum van tijd af	— This roofrack comes off in no time

c. Since the Dutch verb *kunnen* is a fully conjugated verb, whereas the English auxiliary *can* is defective, English requires the phrase *be possible* in sentences with future reference:

Dit artikel zal niet voor het einde van de maand geleverd kunnen worden	— It won't be possible to supply this article before the end of the month
Zoiets zal nooit meer kunnen gebeuren	— It will never be possible for such a thing to happen again
Zal men de inflatie ooit kunnen beteugelen?	— Will it ever be possible to check inflation?

d. Note the various meanings of English *might have* and *could have*, which can be used in the following ways:

1. *Might have/could have* are used as tentative variants of *may have* to express the present possibility of a past event or action: it is just possible that an event or action (has) occurred.

Dutch uses:

- *kan wel* + perfect infinitive
- perfect + *misschien (wel)*
- a construction with *zou(den)*

Examples:

She may have made it all up/ She might have made it all up/ She could have made it all up	Ze kan alles wel verzonnen hebben/Zij heeft misschien alles wel verzonnen/Ze zou alles wel eens verzonnen kunnen hebben
He may have hit her/He might have hit her/He could have hit her	Hij kan haar wel geslagen hebben/ Misschien heeft hij haar wel geslagen/ Hij zou haar wel eens geslagen kunnen hebben
They may have left yesterday/ They might have left yesterday	Ze kunnen gisteren wel vertrokken zijn/ Ze zijn misschien gisteren wel vertrokken/
They could have left yesterday	Ze zouden gisteren wel eens vertrokken kunnen zijn.

Note that *might have* and *could have* can also occur in interrogative sentences. Examples:

Might she have made it all up?	Heeft ze misschien alles verzonnen?/ Zou ze (misschien) alles verzonnen hebben?

Could they have left yesterday?	Zijn ze misschien gisteren vertrokken?/ Zouden ze (misschien) gisteren vertrokken zijn?

Note that in negative sentences *could not have* is used as a tentative variant of *can't have* to express that it is not possible that an event or action (has) occurred. When both *could* and *not* are accented *could not have*, like *may not have* and *might not have*, expresses that it is (just) possible that an event or action has not occurred.
Examples:

He couldn't have noticed her absence	Hij kan haar afwezigheid onmogelijk opgemerkt hebben
He could not have noticed her absence/He may not have noticed her absence/He might not have noticed her absence	Hij heeft haar afwezigheid misschien (wel) niet opgemerkt/Hij kan haar aanwezigheid wel niet opgemerkt hebben

In all these cases *might have* and *could have* can be said to be ignorance-based, i.e. the speaker does not know whether a possible action or event actually occurred in the past.

2. In conditional contexts *might have* and *could have* are knowledge-based, i.e. the speaker knows that the event or action did not actually occur. Knowledge-based *might have* and *could have* are not freely interchangeable. *Might have* expresses the present possibility of a past contingency: it is possible that an event or action would have occurred (if...). *Could have*, on the other hand, expresses a past possibility that did not materialize: it would have been possible for an event or action to occur (if...). For knowledge-based *could have* Dutch uses *had kunnen*, for *might have*:
   - pluporfect + *misschien wel*
   - *had wel eens kunnen* + infinitive
   - a construction with *zou (den)*

Examples:

might have	
She might have invited you (if you had been there)	Ze had je misschien wel uitgenodigd /Ze zou je misschien wel uitgenodigd hebben (als...)
It might have happened to you (if you had been in that situation)	Het was U wellicht ook overkomen/ Het had U ook wel kunnen overkomen (als...)
The train might have been cheaper (if we had taken it)	De trein was wellicht goedkoper geweest/De trein had wel (eens) goedkoper kunnen zijn/De trein zou wellicht goedkoper geweest zijn (als...)
could have	
She could have invited you (if you had been there)	Zij had je kunnen uitnodigen (als...)

It could have happened to you (if you had been unlucky enough)	Het had U ook kunnen overkomen (als...)
The train could have been cheaper (if we had bought a season-ticket)	De trein had goedkoper kunnen zijn (als ...)

Note again that in *could not have* the auxiliary is negated, while in *might not have* it is the perfect infinitive that is negated. Hence *could not have* equals 'it would not have been possible for ...' while *might not have* means 'it is possible that an event or action would not have occurred'.

Examples:

Such measures could not have had any effect	Zulke maatregelen hadden geen enkel effekt gehad kunnen hebben
Such measures might not have had any effect	Zulke maatregelen zouden wellicht geen enkel effekt gehad hebben/ Zulke maatregelen hadden misschien geen enkel effekt gehad.

3. *Might have* and *could have* are freely interchangeable when they express a reproach. Dutch uses *had wel eens mogen/kunnen* + infinitive.
Examples:

You might have kissed me!	Je had me wel eens mogen/kunnen kussen!
You could have sent me a postcard!	Je had me wel eens een kaartje mogen/kunnen sturen!
It might have been a bit shorter!	Het had wel wat korter gekund!

e. It is worth while noting that Dutch learners of English tend to use *perhaps/maybe* almost to the exclusion of *may/might*, etc. In English one often finds possibility expressed by one of these modal auxiliaries.

Examples:

Misschien heeft hij wel gelijk	He may/might be right/Maybe he is right/Perhaps he is right
Het was misschien te donker	It may have been too dark/Perhaps it was too dark

f. The Dutch adverb *onmogelijk* corresponds to *not possibly* in English

Ik kan onmogelijk komen	I cannot possibly come

PERMISSION

1. Permission in its normal use implies two human participants with different roles: a person who gives permission (A) and is in a position of authority over another person (B), who is given permission in respect of what the permission is about (X). Characteristic situations are: Boss (A) — employee (B) — have a day off (X); Parent (A) — child (B) — have a chocolate bar (X), etc. ...

Speakers can grant permission or ask for permission, as well as report permission (i.e. state that permission exists or does not exist) or inquire after permission (i.e. ask whether permission exists or does not exist). In Dutch these four cases can be exem-

plified as follows:

Jij mag (van mij) gaan
Mag ik (van jou) gaan?
Dat mag/Ik mag
Mag dat?/Mag jij?

Absence of permission is also discussed in the section on prohibition (see section .....)

2. *Permission can be expressed in the following ways:*

a. by means of the auxiliaries *can* (*could*) and *may* (*might*). *May* is considered to be more formal and polite than *can*. Some speakers prefer *may* to *can* as being the more 'correct' form for the expression of permission, but many people today tend to avoid the use of *may* as being too authoritarian in statements, and unduly unassertive in questions. 'The story of "Can I come in?" — "You can, but you may not" belongs to a different age', as Palmer observes (1974:118).
The tendency to avoid the use of *may* may be related to the fact that *may* stresses the unequal status of A and B in relation to X: in statements it implies that it is the speaker who gives or refuses permission, in questions that it is up to the hearer to give or refuse permission. *Can*, on the other hand, serves to give or refuse permission without acknowledging the source of permission; in questions *can* serves to ask for permission, again without the implication that it is up to the hearer to grant permission (although this is in fact the case). The use of *can* rather than *may* in statements may therefore be due to the wish to avoid authoritatian overtones in giving or refusing permission and, in questions, to the desire to save the hearer the embarrassment of appearing authoritarian when answering the question. Apart from this, *can* is also used to report permission, i.e. to state or deny that permission exists and to inquire after permission, i.e. to ask whether permission exists. Examples:

Statements:

— giving/refusing permission (performative utterance): *can/may*
You may watch Match of the Day tonight (I allow you...)
You can watch Match of the Day tonight (You have (my) permission...)
Johnny may watch Match of the Day tonight (I allow him...)
Johnny can watch Match of the Day tonight (He has (my) permission...)

Although all four sentences indicate that permission is granted to the subject, the *can* examples imply that the speaker's role as permitter is disguised, hence the use of parentheses around *my*.

There is at least one exception to the rule that *may* in statements implies that permission is given or refused by the speaker. The combinations *I may*/*We may* merely report that permission exists for the subject of the sentence. Thus, *We may cross the border again* merely states that it is (once more) permissible for us to cross the border.

— reporting permission: *can*
I can watch Match of the Day tonight (I have permission...)
You can't go out tonight (You don't have permission...)
Johnny can watch Match of the Day tonight (He has permission...)

Questions:

– asking for permission: *can/may*

May I use your phone (Will you allow me...)
Can I use your phone? (Is it all right (by you) if...)
May Johnny watch Match of the Day tonight? (Will you allow him...)
Can Johnny watch Match of the Day tonight? (Is it all right (by you) if...)

Note that in the *can* sentence it is the hearer who figures as the disguised permitter.

– inquiring after permission: *can*

Can I watch Match of the Day tonight? (Have I got permission...?)
Can you stay up late tonight? (Have you got permission...?)
Can Johnny watch Match of the Day tonight? (Has he got permission...?)

It is worth noting that questions with *May you...?* are rare, presumably because the hearer cannot give himself permission. To inquire after permission for the hearer *Are you allowed to/Can you/ Will they let* you, etc. are more common (Du. Mag jij...?) *Could* and *might* combined with a first person subject are freqiently used in polite, tentative requests for permission. The main difference is that *might* is more formal than *could*.

Examples:

Could I have a copy of this letter?
Could I see your driving-licence, please
Might I make a suggestion?

***Could* can also express hypothetical permission and permission in the past:**

If you were an OAP, you *could* get on free
When I was your age, I *could* go out every evening

***Might* can express permission in the past in reported speech only:**

You said that I might/could use your phone
He asked if he might/could use a dictionary

b. by means of the verbs *allow (be allowed to)* and *permit* (be *permitted to*). *Permit* is considered to be more formal than *allow*.

Examples:

I cannot allow you to continue like that
Please allow me to finish what I am saying
Smoking is not allowed in this school
Next year you will not be allowed to take the exam in May
Undergraduates are not permitted to entertain ladies in their rooms
The rules do not permit us to elect a foreigner.

Note that the forms *be allowed to/be permitted to* are also used when the modals *can* and *may*, which are not fully conjugated verbs in English, cannot be used.

In the simple present and past there seems to be a difference in meaning between *be allowed to*, etc. and *can*. Thus *Is Dick allowed to take the Friday afternoon off?* would be a way of inquiring after the existence of a permanent permission, while the sentence *Can Dick take the Friday afternoon off?* is more likely to be a request for permission on a particular occasion. Cf.:

A: Can I offer you a drink, inspector?
B: No, I'm afraid I can't accept your kind invitation, sir. We policemen are not allowed to drink on duty.

c. by means of the negative phrase *not be supposed to* (in present and past tenses)
Examples:

I am not supposed to tell you
We were not supposed to tell you (, but...)

The phrase *not be supposed to* is very close in meaning to Du. *eigenlijk niet mogen*. Note that the positive form *be supposed to*, does not express permission. One of its meanings is obligation (see section...).

d. by means of the verb *let*.
Examples::

John won't let his daughter go to that party
The policeman would not let us pass
Will you let me explain this, please
Don't let him get away with it

The passive construction *be let*+ infinitive is very rare. Instead we usually find *be allowed/permitted to:*

After waiting for two hours at the border, { we were let go / we were allowed to go }

e. by means of the verb *mind* (in questions and negative sentences).
Examples:

I dont' mind if you tell her
Would you mind my opening that door?
Do you mind { if I smoke? / my smoking? }
You don't mind me using your phone, do you?

f. by means of the expressions *Is it all right/okay if...? Will/Would it be all right/okay if...?*
Examples:

Is it all right if I use your phone?
Will it be okay if do it tomorrow?

g. by means of (formal) expressions like *to give (grant) somebody permission, to have somebody's permission (leave) to ask (request) permission*:
Examples:

I give you permission to leave early today
Will you grant me permission to go away for two days?
You had my permission to stay until the end of the party
Do I have your leave to be absent tomorrow?

h. by means of expressions like *Yes of course, By all means, Please do, I suppose so, Be my guest*, and informal phrases such as *all right*, okay and *sure*, all of which are used as positive reactions to requests for permission. Note that utterances such as *I don't mind, Please yourself* and *Do as you like* express indifference on the part of the speaker, or his reluctance to grant permission.

To deny permission, English has expressions like *No, I'm afraid not, No, you can't, Of course not, You can't be serious* and *You must be joking. Forget it* and *No way* are often heard in colloquial conversation.

3. *English and Dutch compared*

The following points deserve comment:

a. Since the auxiliaries *can* and *may* lack-finite forms, whereas the Dutch verb *mogen* is a fully conjugated verb, we find that in the perfect and future tenses English uses the suppletive forms *be allowed/permitted to*:

Ik heb hem tot nu toe twee keer mogen bezoeken
So far I have been permitted to see him twice

Hij was blij dat hij haar had mogen kussen toen ze wegging
He was glad that he had been allowed to kiss her when she left

We zullen wel mogen meedoen, denk ik
We will be allowed to join in, I expect

English also uses the suppletive forms when the corresponding Dutch sentence contains the infinitive *te mogen*:

Ze scheen te mogen komen
She seemed to be allowed to come

b. *Be allowed/permitted to* is also used to express hypothetical permission:

Zou jij morgen naar Amsterdam mogen (gaan)?
Would you be allowed to go to Amsterdam tomorrow?

Had jij mogen gaan als je zo oud was geweest als ik?
Would you have been allowed to go if you had been my age?

As appears from the examples above Dutch *had mogen* corresponds to:

1. *had been allowed/permitted to* when the reference is to permission that was actually granted.

2. *should/would have been allowed/permitted to* when the reference is to hypothetical permission in the past.

c. The Dutch past tense *mocht(en)* corresponds to English

1. *was/were allowed/permitted to* in direct speech:
Mochten jullie terugkomen?
Were you allowed to come back?

Ik mocht niet blijven
I was not allowed to stay

2. *could* in direct speech:
Mocht je gisteren met hem spreken?
Could you talk to him yesterday?

This use of *could* is comparatively rare, be *be allowed permitted to* being far more common

3. *might/could* in indirect speech
Hij zei dat hij niet aan boord mocht gaan
He said that he might/could not go on board

Zij beloofde dat ik morgen mocht uitslapen
She promised that I might/could have a lie-in tomorrow

Note that Dutch also uses *mocht(en)* to express tentative condition, in which case English has *should*.

Mocht hij komen, laat hem dan niet binnen
Should he come, don't let him in

d. The English equivalen of Dutch *zou(den) mogen* in polite requests for permission is *could* or *might*:

Zou ik mogen weten waarom je niet komt?
Might I know why you are not coming?

Zouden wij meer inlichtingen over dit punt mogen hebben?
Could we have more information on this point?

e. English uses the subject-forms of the personal pronouns in sentences of the type

I (he, she) was
You (we, they) were } not allowed/permitted to attend the meeting

Dutch uses the object-forms *mij, hem, haar, a ons*, etc.:

Mij (hem, haar, ons...) werd niet toegestaan de vergadering bij te wonen.

f. A striking difference between English and Dutch is the fact that when there is a further complement of some kind in X (usually an object) the verb may sometimes be left out in Dutch but not in English. This kind of "ellipsis" is often found in Dutch questions.

Examples:

May I have an ice-cream	Mag ik een ijsje (hebben)?
Can I go away now?	Kan/mag ik nu weg (gaan)?
You may have/take a sweet	Je mag een snoepje (pakken/hebben)
You cannot do it	Je mag (het) niet (doen)

g. In English ellipsis is possible in short-form questions and answers, provided the linguistic or extralinguistic context makes clear what is supposed to be left out.

Examples:

May I? { Of course you may (B picks up a cigarette and lights it)
{ No, you may not (B puts the cigarette back)

In Dutch ellipsis is common in questions (Mag ik?). In declarative sentences an indefinite object is required. — Ja, *dat* mag je; Nee, *dat* mag je niet.

Alternatively, B (the person who is given permission) may be left unexpressed, the indefinite object may then come out as the grammatical subject.
Cf.: Ja, dat/het mag. Nee, het/dat mag niet.

h. Note also the following:

Het mag niet, vrees ik
It is not allowed, I'm afraid

Dat mag je niet, Mary
You are not allowed/permitted/supposed to do that, Mary

Dat mag niet van mijn vader
My father won't allow me to/ My father won't let me

Van mij mag je
I don't mind if you do / It's all right by me

We mogen de grens weer over
We may cross the border again

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THE THEORY AND METHODOLOGY OF SPEECH SCIENCE AND CONTRASTIVE ANALYSIS

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1. Contrastive linguistics is a discipline which can be considered either to belong to pure, autonomous linguistics or to be a representative of applied type of research. All depends on the definition of linguistics, and applied linguistics. In this paper, contrastive linguistics is taken to mean the scientific study of how people use language to communicate in two or more languages and what are the consequences when the two communicative systems clash in the foreign language learning situation. This kind of contrastive analysis of human speech communication is necessarily a branch of applied linguistics.

This does not mean that CA is an activity whose *only* aim is to apply linguistics for some practical purposes outside the scope of pure linguistics. It is a discipline which cannot rely on linguistics alone; it works with similarities and differences in various human verbal, and even non-verbal, codes. In view of what is expected of CA today, it will have to be able to absorb both theoretical perspectives and methods for practical analysis from all branches of the disciplines which deal with language and speech or human behaviour in general. One of the more important neighbouring sciences is the science of speech, traditionally called phonetics. In this paper, an attempt is made to discuss the question of how the science of speech can contribute to CA.

The first chapter deals with some theoretical aspects of the interrelationship between grammar and speech and the nature of the speech chain. In the concluding chapter a brief summary is given of some methods of the instrumental analysis of speech which may have some relevance for CA.

The term *speech science* (or *the science of speech*) is here preferred to 'phonetics' for several reasons. In structural linguistics the term phonetics refers to the output level of phonology (cf. figure 1), which often carries along several

linguistic implications. Some of these will be discussed in chapter 3 below. Phonetics is often defined as a scientific activity whose aim is to reveal and describe how phonological information is conveyed through the sound waves of speech in each language. The term speech science, on the other hand, being free from similar biases and connotations, will be used in this paper to refer to the study of the entire chain of human speech. It includes aspects of communication technology, psycho- and neurolinguistics, and discourse analysis, as well as various other aspects of the study of human verbal and non-verbal behaviour in general. According to Ladefoged (1977:409), the linguist is trying to describe the patterns that occur within each language, whereas speech scientists are concerned with how people communicate: "They want to explain what people are doing when they talk and listen, and perhaps even what they are doing when they think and talk, and when they listen and understand".

The choice in terminology thus, for its part, reflects a distinction between the code-centered approach of linguistic phonetics and the communicative or psycholinguistic perspective in which attention is paid to the communicative behaviour of individual speakers instead of abstracted structures.

2. Expanding the Contrastive Analysis Framework

The limitations of traditional contrastive analysis are evident today (cf. Sajavaara and Lehtonen (1979)). For several reasons its method of describing the grammars of two languages as abstract collections of rules divorced from their users is insufficient. The fundamental role of a human language is to function as a means of communication in human interaction. Accordingly, the task of CA is not a mere parallel description of two grammatical structures but also the description of the chains of communication in the two languages. This means that the analyst must, in addition to the description of the grammatical structures, make an attempt to map the differences and similarities in the processes which take place in the speaker and in the listener during speech communication. Language is used by individuals for definite purposes. Its use is linked with the intentions of the speaker in some specific time and environment. The use of language is always part of human interaction. This aspect of language, the similarities and differences in the rules of discourse in interaction, must also be included in CA.

Contrastive analysis may no longer be the best label for this kind of research. It does not mean the description of the equivalent patterns of two languages but an analysis of cross-language interaction and a search for the reasons for the difficulties and failures in the use of the foreign language by the student. In such a work, contrastive analyses of grammatical structures are still necessary but they must be supplemented by an analysis of the

psychological and sociological aspects of linguistic interaction. The former comprise the study of differences and similarities in the information-bearing features of the acoustic speech signal, differences and similarities in the cues of perception, and sources in the perceptual patterning of speech and foreign accent from the viewpoint of the foreign speaker-hearer and the native hearer, and differences and similarities in linguistic interaction, which will cover the discourse behavior of native and non-native speakers, including features such as tempo, pauses, paralinguistic and kinetic elements, and various pragmatic, structural and semantic paradigms in their communicative function within discourse. The sociological aspects involve the social context, the environmental relations or proxemics, and other factors which affect the choice of the discourse register and modify the attitudes, communicative intentions, and responses of the participant in the discourse.

This description of the objectives of contrastive analysis leads to the fact, mentioned above, that CA is not just a special branch of pure linguistics. In addition to the theory and methods of linguistics, it must inevitably be supplemented by the methods of disciplines such as sociology, psychology and neurology, and applied mathematics, as concerns the analysis and description of pragmatic patterning, cognitive mechanisms, perception, and the information-processing systems in man. The expanded objectives of contrastive analysis are thus, to a large extent, parallel to the goals of the modern science of speech, which has the analysis of various aspects of speech communication as its objective.

3. The Static and Dynamic View of Language

Throughout the first decades of the present century there was an open conflict in the phonetic sciences between instrumentalists, who referred to the physical manifestations of speech, on the one hand, and advocates of 'auditory' phonetics, who based their claims on sophisticated auditory observations, on the other. The observations of these two factions were never identical; however, neither of them was wrong: one described the properties of the physical stimulus, the other observed the result of auditory perception. Early phoneticians never saw the core of the problem: they did not ask what the processes are which lead to the auditory perception of linguistic structures, or how the linguistic information is conveyed by the sound-waves of speech, and thus the conflict remained unresolved.

In a way, the same dichotomy is repeated today in the relationship between phonologists, on the one hand, and representatives of speech science, on the other. Phonologists engage in a dispute among themselves about the reference level of classificatory features: one of the schools claims that the features are prinipally acoustic, another school is of the opinion that the

reference level should be that of the articulatory settings. The third choice is the view brought forward by the psycholinguist or the speech scientist, that the features are principally neither acoustic nor articulatory but phonological and linguistic; the phonological rules which operate with the feature matrices have as little to do with actual neurological and physiological processes in speech as the rules of generative syntax have with actual processes in the human brain in the production and perception of linguistic messages (cf. Buckingham and Hollien 1978, esp. p. 294). Grammars, including phonology, are always descriptions of structures, not of processes. A grammatical rule, whether it is traditional or 'generative', is only a description of a given regularity in the structure of the language and not a model for the actual processes that are found in the brain of the speaker and the listener (cf. Clark and Clark (1977:190 ff.); For modelling of transformational grammar, see Bresnan (1978:4—5). Therefore, they can never predict all of the interference phenomena that result from the clash of two different information processing systems — for a clash is evidently what takes place in foreign language speech communication.

One of the crucial questions in the discussion concerning contrastive analysis has been the choice of the reference model: should CA be based on traditional structural or generative grammar, and if so, which variety? In applied contrastive studies the choice is often eclectic: those grammatical theories are exploited which seem to give the best explanation in each problem. The alternative is to describe the structures of the two languages consistently within the framework of a given grammatical theory irrespectively of how efficiently the theory can explain the problems of the cross-language analysis. However, the choice of the reference model does not concern only the model to be used in the description of grammar. It should also comprise the choice between a static and a dynamic view of language or, in other words, the choice between a linguistic and a psycholinguistic description, or between a structural and operational modelling of language and communication. The former (the structural model) aims at describing the abstracted and idealized structure of language, which, in the case of CA, means similarities and differences in the structures, or grammars, of two or more languages. Independently of the choice in the linguistic model, taxonomic or generative, the objective of this kind of description is always the structure of the language instead of the actual processes.

The target of an operational model of language is not an abstracted static structure but language in action. This does not mean pragmatics or description of linguistic interaction only, but also observation of the entire set of communicative means, both verbal and non-verbal, which are applied in human interaction.

The final goal of the dynamic model is not a comprehensive description of

language as a paradigm of rules for structures, where actual messages have only the value of raw-material. The objective of the description and analysis is the vehicle of human communication, both from the perspective of the speaker and the listener, and that of the society. The fact that the description is not focussed on language but also on messages also reflects the content of several basic concepts: a linguist, when speaking of a proposition, for instance, has the meaning of a sentence in mind. In real communication, however, the proper meaning, or the intended logical basic content of the message, may be conveyed through another channel, not language, eg. through gestures, body movements, or paralanguage. There may or may not be a concomitant linguistic utterance, either in accordance with, or contradiction to, the proper meaning. As is well known, the listener normally resorts, in the latter case, to the non-verbal information and thus receives the intended, or propositional, meaning of the message (cf. Knapp 1978:20—26).

4. Modelling of Speech and Language: a New Approach

There is certainly no exaggeration in the claim that, during the last ten years, speech science together with some related branches of science such as experimental neurological and psychological studies of language and speech (ie. neuro- and psycholinguistics) has radically changed the traditional view held by linguists of the structure of actual speech and of the transmission of linguistic information through the speech chain. Figure 1 illustrates the traditional view of the hierarchy in the perception of speech: the speech

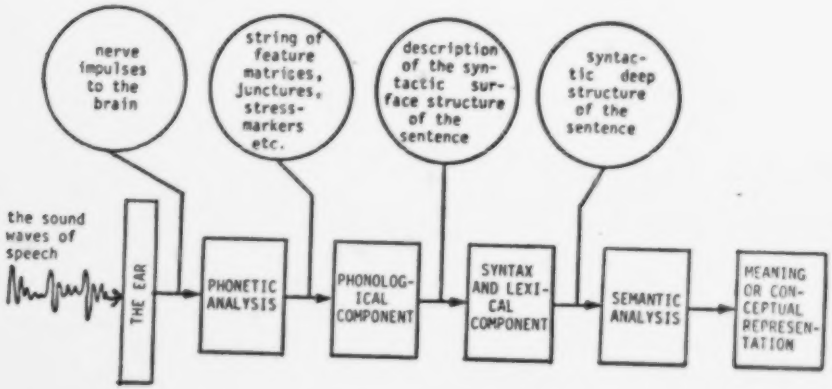
nerve impulses to the brain
string of feature matrices, junctures, stress-markers etc.
description of the syntactic surface structure of the sentence
syntactic deep structure of the sentence
the sound waves of speech
THE EAR
PHONETIC ANALYSIS
PHONOLOGICAL COMPONENT
SYNTAX AND LEXICAL COMPONENT
SEMANTIC ANALYSIS
MEANING OR CONCEPTUAL REPRESENTATION

Figure 1. An imaginary 'hierarchical' model of speech perception or a 'model of successive transformations' (this model is not supposed to represent the actual statements of any 'school').

signal undergoes a series of successive transformations whereby the information is recoded into more abstract forms of representation. There is no reason, however, to assume that perception of speech is based on the phonological information conveyed through the acoustic speech signal only or that the recognition process should proceed in a one-way manner from left to right or from sound-wave to meaning. As a matter of fact, there is plenty of experimental evidence that language perception does not work in the way described in Figure 1.

Both the recent data from psycholinguistics and the progress in developing automatic speech understanding systems allow for the rejection of a strict serial organization, and support, instead, the view that the listener processes the message simultaneously, or in some overall way, on several 'levels' of perception.

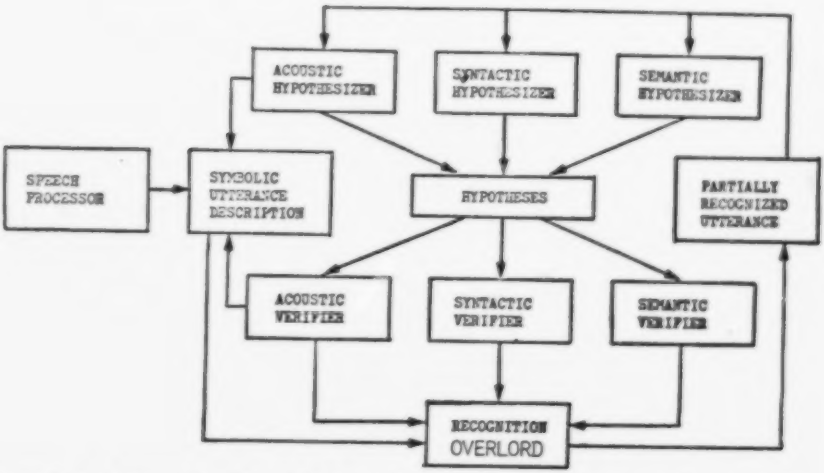

Figure 2. A "heterarchical" model of speech recognition (Ainsworth 1976: 118).

Figure 2 represents an alternative model of the speech recognition system. The figure does not represent a real human information-processing system; it is derived from a work dealing with automatic speech understanding systems (Ainsworth 1976:118). However, it comprises several features typical of recent psycholinguistic models of human speech perception. As compared with the hierarchical or input-driven model given in Figure 1, it is characteristic of the present model that the recognition of the message is not based on the acoustic signal only. Instead, recognition is a result of active guess-work

in which the input signal, ie. the message received, is compared with the 'synthesized' alternatives. According to this model, understanding is not passive decoding but active processing, where the listener's knowledge of the phonetic, syntactic, semantic, and social constraints and probabilities play an essential role (cf. Marslen-Wilson and Welsh 1978).

The modern view of speech implies that there are in the flow of the sound waves of speech certain cues for various levels of 'grammar' and that the grammatical and semantic information is not present in the speech waves coded through segmental phonology only, but also in the features which directly refer to 'higher-level' structures. Thus, the flow of speech is not just a manifestation of strings of phonemes but also of words, word groups, and sentences as well. But it should not be forgotten that in a normal face-to-face situation language and messages coded linguistically are only one of the channels avaible for the speaker to transfer information. To a certain extent he can choose between a non-verbal and a verbal channel and between a variety of paralinguistic modifications to the phoneme string of the linguistic signal.

5. Speech and the Observer

Conscious Perception of the Physical Parameters of Speech

Many of our impressions of speech events are — if not theoretically acquired as in the case of linguists and phoneticians — simplified generalizations derived from the categories of the internalized patterns of rules and structures which we call phonology. What is claimed here is that man does not normally hear, or experience, the actual physical utterance but a chain of sound segments which correspond to the expectations concerning the utterance. This is by no means exceptional from the point of view of human perception mechanisms in general: our perceptions are structured by our cultural conditioning, education, and personal experiences, which result in fallacies concerning our observations. Irrespective of what really takes place our observations are affected by preconceived notions about what we will see or hear. Perception is constrained by expectations and stereotypes: we observe structures which we have learned to exist and which we choose to observe. It is also important to remember that there is much inconsistency in the expression of one and the same mental experience: even if two people experience a stimulus (eg. an intonation pattern of a sentence) in a same way, they may express their observations differently (cf. Knapp (1978:381 ff.), see also Öhman 1975).

For the speaker-hearer, language is a psychologically real, abstracted and idealized structure and, due to its categorizing nature, this structure acts in perception like an automatically tuned detector which filters from the

message all information that is not linguistic (or communicative). In other words, language forms for man an earphone through which he can hear only language, and not speech. Each acoustic speech-signal which has been identified as being speech is "heard" as a representative of a given linguistic structure and as a consequence, the listener is able to consciously perceive only a few of the properties of the signal and is deaf to many physical events in it which lie beyond the conscious auditory experience. Many of the acoustic cue-features which actually carry the information distinctive for speech perception are subconscious (notice, for instance, the formant patterns of vowels, consonantal loci and transitions, temporal patterns of the strings of speech-sounds, etc.).

It is possible for the listener to focus on various linguistic structures of the utterance, such as the meaning of the utterance, the syntactic structure, or the phonological structure, ie. phonemes and phoneme strings. Similarly, conscious attention can be paid to certain postures and movements of the speech organs, but both the way in which they actually operate during speech and the features in the resulting acoustic speech which enable us to understand the message are beyond the scope of conscious observation. Thus, there are features in the speech chain which are outside our capacity to consciously monitor the processing of messages and the differences in the processing between two languages.

All this has certain important consequences: the contrastive analyst and the foreign language teacher must realize that the way they 'see' a certain pattern of the target language may totally differ from the way the student perceives the same thing. The problems of the foreign language student can be understood only if we know how he 'feels': what he attempts to hear, what he actually hears, and what the structures are he actually perceived, and how these differ from the target, ie. from the way in which the native speaker's perception works in similar situations.

Phonetic Transcription and the Reliability of Auditory Observations

The evaluation of the capacity of traditional phonetics and phonology to describe the phonetic reality must also include a consideration of the phonetic symbolism which is used in phonetic transcription. In linguistic field-work, phonetic symbols are easily given the value of an icon, ie. they are regarded as images of some physically true articulatory postures or acoustic qualities. And, accordingly, they are often used as 'phonetic evidence' for various phonological rules, for instance. However, the phonetic symbols are nothing but *symbols* of given *perceptual* phonetic categories, ie. symbols of categories which have been created in the human mind. For the most part the 'narrow' phonetic transcription is nothing but an allophonic description of the alleged phoneme strings of the utterance.

What phonetic symbols are not, and never can be, is *models* of the actual articulatory or acoustic events in speech. Phonetic symbols are not meant to describe the physical reality of speech; they represent the most peripheral level of the perceptual categories in the phonic structure of language. Phonetic transcription could be defined as the lowest level of pure phonological (linguistic) description of language and utterances. The phonetic notions of sound segments, stress degrees, or rises and falls of intonation are, of course as true as any sensations and feelings whatsoever. But they are true in the linguist's subjective reality only. Very often the physical reality differs from his experience: the tongue is not in the position where he thinks it should be, there is no physical prominence to the syllable which he hears as being stressed, and the change in the fundamental frequency of speech may be just the opposite to what he perceives and describers as an intonation curve.

Though there exist, without dispute, some universal tendencies in the perception of the phonetic parameters of language, the reception of phonetic categories is influenced to a great extent by the listener's mother tongue and by the classificatory principle he applies. A Finn and a Pole, for instance, do not 'hear' the same English utterance in an identical way; they perceive the stimuli in terms of the perceptual categories of their own language. What is important from the point of view of contrastive analysis and language teching is, however, the fact that neither hears the message in the same way as a native listener does.

6. The Speech Chain and Cross-Language Differences

On the level of phonetics the objective of contrastive analysis should be the establishment of the similarities and differences in the way in which ideas (or messages) are conveyed through the chains of communication in the two languages. The contrastive description of the similarities and differences between the communication chains of the two languages consists of two kinds of factors: similarities and differences in the way in which linguistic information is turned into physical speech, and those in the way in which the parameters of physical speech are processed in reception.

Before discussing the special problems related to language contact in foreign language learning which are of interest for contrastive analysis, it is necessary to sketch, in broad outline, the processing of the speech chain from the perspective of modern phonetics. The role of articulatory movements in the transmission of information is that of converting the phonological information, ie. the string of symbols of the phonologically coded message into sound waves. From the point of view of grammar and phonology, this conversation changes the chain of distinct phonological segments into a blend of various qualities and pretended or overlapping boundaries between them. The result-

ing phonetic variation, whether it is due to an intended articulatory move or some motor constraint, serves as a piece of information for the listener. The properties of the sound waves of speech which convey the linguistic information or which, in other words, are used in perception by the listener to detect a given category are called either phonetic features or acoustic cues of identification. Each phoneme or phonological feature of a language can be described, on the physical level of speech, as a set of cues or phonetic features which bring about the perception of a given phoneme in various contexts. In the light of recent findings in speech perception research, it seems plausible that there are special feature detectors tuned to reveal, in the sound wave, the acoustic features which are used as cues for phonological categories in speech. Evidence for feature detectors has been gathered in tests with, for instance voice onset time and formant transitions. Moreover, the detectors seem to be tunable, which explains their function in languages with phonetically different sound patterns.[1]

Identification cues, similar to those for phonological segments, are also found in the speech wave for higher-level information bearing structures. The listener has learned to follow some cue-features in the oscillation of voice which indicate, for instance, a lexical boundary, the phonotactic structure of the word, or some syntactic and semantic structures of a sentence such as constituent structure, topicalization, or emphasis (in form of pitch patterns, sentence rhythm, final lengthening and other phenomena in the temporal organization of the segment strings, etc.).

For speakers of one and the same language the feature detector systems is, of course, matched to the acoustic patterns which correspond to the habits of motor implementation of speech in their own language. In foreign language learning, interference is found between the cue patterns of the mother tongue and those of the target language. It is likely that the differences in the general characteristics of the pronunciation of the two languages (sometimes called the idiomacy of pronunciation or base of articulation) also comprise differences in the cueing systems and difficulties in the perception of the spoken foreign language.

Unfortunately, the capacity of the tests available at present to reveal the 'critical' points in the interlanguage speech channel is rather limited, partly because we still lack an integrated picture of the mechanisms functioning

[1] These terms are often used in modern psycholinguistics in a more restricted sense to refer to given experimentally demonstrated phenomena in the perception of some acoustic parameters in speech, such as voice onset, which have parallels both in the visual feature-detection mechanism of man and in the perceptual mechanisms of animals (cf. Massaro 1978; Cairns and Cairns 1976:143 ff.). In this paper, the concepts of 'cue' and 'cue detection' are used in a more figurative way without referring to any precisely located mechanisms in the process of perception.

in the transfer of information in a normal language communication. The only way of testing speech perception, available for CA, are identification tests based on minimal word pairs and other similar traditional methods of testing pronounciation. These methods, are however, so closely related to the taxonomic view of language that they are suitable only for the testing of certain types of phonological contrasts.

There is, however, and indirect way of approaching the problems of the foreign language speech perception: it is the analysis of the student's speech production. It can be hypothesized that deviancies from the target in the production of the features which are known to function as cues for syntactic or semantic processing of utterances reflect corresponding difficulties in perceptual processing. Similarly, if some native-language features break through the pronunciation of the foreign language, the student may be expected to seek the same cues also when he is trying to understand messages in the foreign language.

7. Instrumental Methods

The concept of the speech chain is, again, useful for the discussion of the problems and the existing instrumental methods for the analysis and physical description of the events in human speech. Analyzing the speech chain means seeking the answer to questions such as how the messages are transmitted from one person to another, or through what kind of transformations the message gets from the brain of the speaker to the brain of the hearer?

The main stages of the speech chain are: the process of speech production, the sound wave (the acoustic signal), and the process of speech perception. The methods of investigation can also be divided into three major categories according to which stage of the speech chain is the object of research. The acoustic signal is the most easily accessible stage; it can be recorded on tape and analyzed by means of several acoustic research apparata (intensity meters, fundamental frequency indicators, duplex processors, sound spectrographs, digital spectrum analysers, etc.). But when we move from research centred on the sound wave to research dealing with speech production or perception, the task becomes the more difficult the 'higher' the phenomenon which we want to study is in the speech chain. There are certain methods for the study of peripheral phenomena (such as the movements of the organs of speech or the changes of the air pressure in the cavities of the vocal tract), but we still lack methods to study the phenomena in the central nervous system.

Figure 3 illustrates the application of the different methods of investigation to the speech chain. It is not meant to cover all methods of speech research, nor is it possible to describe here all individual methods and instruments of speech analysis. They can all be applied to various analyses with contrastive

orientation as well. Many of them, however, involve some specialization in physiology, acoustics, and the technology of speech analysis, as well as access to a well-equipped speech laboratory, which naturally reduces the contranstivist's interest in the application of such methods in his research.

In addition, there are certain methods within the reach of a contrastive linguist not specializing in phonetics which are relevant in the analysis and testing of 'higher level' linguistic problems such as sentence construction, conveyance of meaning through grammatical constructions and the speech chain, and the progress of discourse in real time. As was pointed out above, it is largely impossible for man to perceive physical speech events objectively. Therefore, one of the most essential applications of the instrumental methods for CA is simply the visualization of physical speech events. Two dimensions in particular are important for the point of view of the analysis and description of linguistic structures larger than sound segments or individual words: these are the time axis of speech and the fluctuation of the fundamental frequency.

Figures 4, 5 and 6 illustrate three fragments of discourse described in a form of an on/off signal on the real time-axis. (For a detailed description of the instrumental method, see Sajavaara and Lehtonen 1978.) The advantages of this kind of description as compared with traditional transcription are evident: In this method, we have access to the analysis of the distribution of speech performance in time, which is an integral element in the linguistic behaviour of man. This information is of special value in the analysis of discourse dynamic and in all tests in which information about reaction time, of hesitation, location of pauses, etc., is needed. The present figures illustrate tracings from a four channel equipment planned for the analysis of discourse at the Phonetics Laboratory of the University of Jyväskylä. It makes possible the recording and analysis of simultaneous speaking turns (eg., simultaneous starts, feedback moves of the listeners, or completions) as well as the chronemics of the discourse in general, which has so far been a parameter neglected in the analysis. Figures 7—9 illustrate tracings of a fundamental frequency meter as applied in the analysis of discourse intonation.

One of the methods in speech research whose possibilities are far from being exhausted is the testing of the linguistic reactions of the speakers of the two languages. The stimuli for the tests can be either natural speech, instrumentally processed natural sppeech, or synthetic speech generated by means of a speech synthesizer and/or a computer.

Figure 10 illustrates the results of a preliminary test of certain phonetic cue features whose stimuli were produced by means of a speech synthesizer. There are, of course, lots of problems involved in the composition, execution, and interpretation of such tests as well as in the use of synthetic stimuli, but they can yield results which are unattainable through conventional methodology.

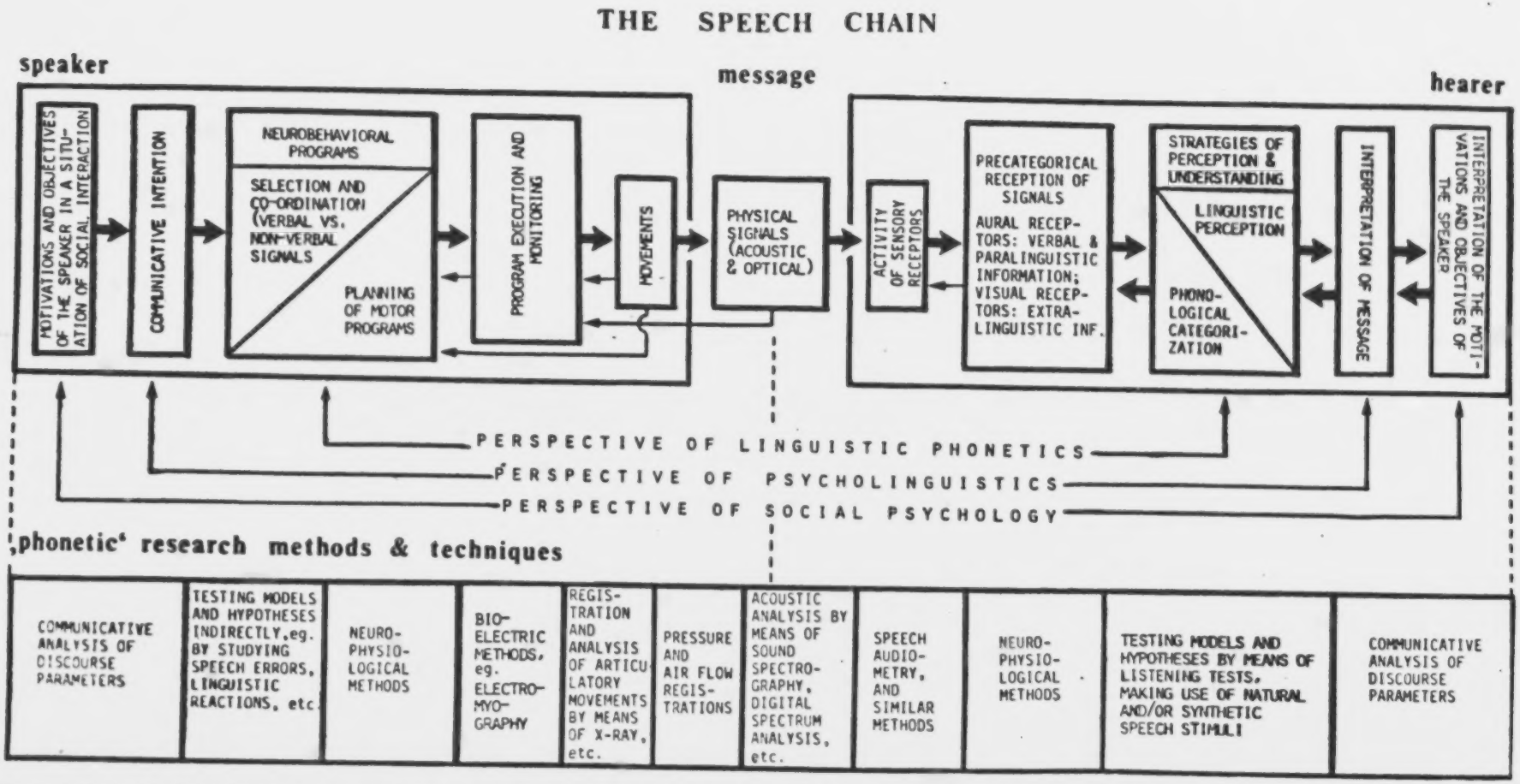
THE SPEECH CHAIN
speaker
message
hearer
MOTIVATIONS AND OBJECTIVES OF THE SPEAKER IN A SITUATION OF SOCIAL INTERACTION
COMMUNICATIVE INTENTION
NEUROBEHAVIORAL PROGRAMS
SELECTION AND CO-ORDINATION (VERBAL VS. NON-VERBAL SIGNALS
PLANNING OF MOTOR PROGRAMS
PROGRAM EXECUTION AND MONITORING
MOVEMENTS
PHYSICAL SIGNALS (ACOUSTIC & OPTICAL)
ACTIVITY OF SENSORY RECEPTORS
PRECATEGORICAL RECEPTION OF SIGNALS
AURAL RECEPTORS: VERBAL & PARALINGUISTIC INFORMATION; VISUAL RECEPTORS: EXTRALINGUISTIC INF.
STRATEGIES OF PERCEPTION & UNDERSTANDING
LINGUISTIC PERCEPTION
PHONOLOGICAL CATEGORIZATION
INTERPRETATION OF MESSAGE
INTERPRETATION OF THE MOTIVATIONS AND OBJECTIVES OF THE SPEAKER
PERSPECTIVE OF LINGUISTIC PHONETICS
PERSPECTIVE OF PSYCHOLINGUISTICS
PERSPECTIVE OF SOCIAL PSYCHOLOGY
'phonetic' research methods & techniques
COMMUNICATIVE ANALYSIS OF DISCOURSE PARAMETERS
TESTING MODELS AND HYPOTHESES INDIRECTLY, eg. BY STUDYING SPEECH ERRORS, LINGUISTIC REACTIONS, etc.
NEUROPHYSIOLOGICAL METHODS
BIOELECTRIC METHODS, eg. ELECTROMYOGRAPHY
REGISTRATION AND ANALYSIS OF ARTICULATORY MOVEMENTS BY MEANS OF X-RAY, etc.
PRESSURE AND AIR FLOW REGISTRATIONS
ACOUSTIC ANALYSIS BY MEANS OF SOUND SPECTROGRAPHY, DIGITAL SPECTRUM ANALYSIS, etc.
SPEECH AUDIOMETRY, AND SIMILAR METHODS
NEUROPHYSIOLOGICAL METHODS
TESTING MODELS AND HYPOTHESES BY MEANS OF LISTENING TESTS, MAKING USE OF NATURAL AND/OR SYNTHETIC SPEECH STIMULI
COMMUNICATIVE ANALYSIS OF DISCOURSE PARAMETERS

Figure 3. A model of the speech chain (from Lehtonen and Hurme 1979) and the experimental methods available to the analysis of each 'link' in the chain. The innermost perspective is typical of linguistically-based experimental phonetics. Expansion of the perspective adds aspects such as intentions and motivations of the speaker and hearer and, finally, the social situations as well as the communicative needs and expectations of the community. The arrows pointing from left to right stand for the feedback mechanisms on various levels of the processes. The entire chain should actually be bidirectional because in normal discourse the roles of speaker and hearer change continuously and, in addition, because the information which the speaker receives from the feedback behaviour of the listener also plays a role in the planning and processing of messages.

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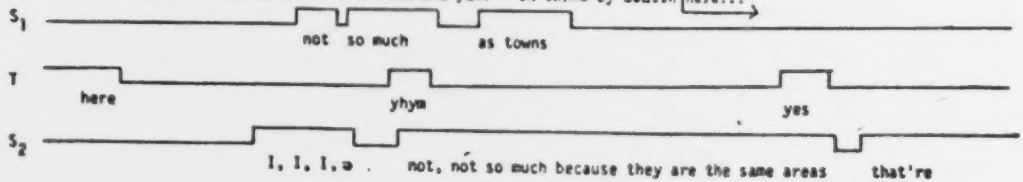
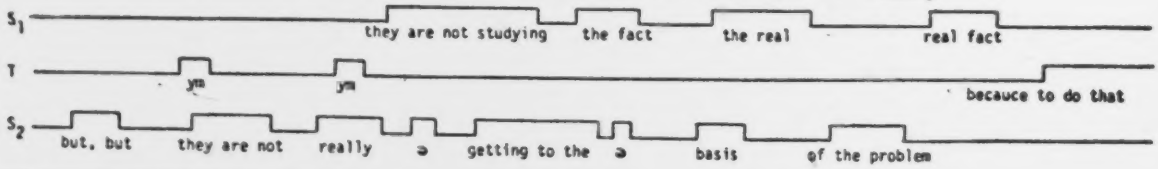
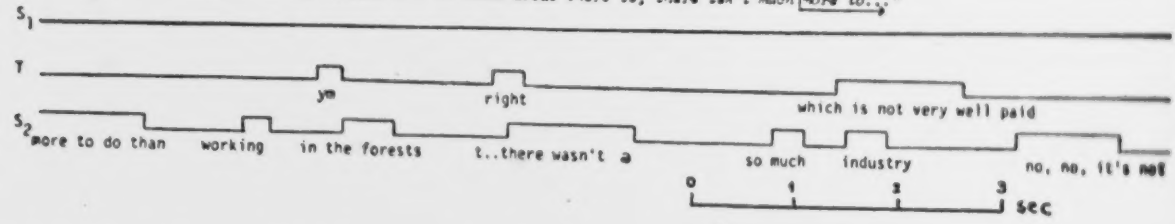
4. (discourse history:)
T summarizes S_1's opinion on competition between urban and rural life-style. S_2 points out that circumstances in Finland differ from those in the article they had read; there are not such areas that people would consider bad or areas of poor people. Then T goes on "So that there is not a problem of, of areas that rise and fall - in terms of wealth here..."



5. (discourse history:)
They are talking about investing programs stating their opinions on the way in which the writer of the article has outlined the programs. S_2 goes on " Yes but I, I think he tries to say that they are, you know, they are just making programs to show that they are doing something but..."



6. (discourse history:)
They are talking about agriculture. S_2 says that farmers stop keeping cows. T mentions unbalance of resources and thinks that the remaining problem is what the people in the farms do instead. S_2 goes on "Yes,yes it is, because t... on those areas there is, there isn't much more to..."



Figures 4, 5, 6. Three fragments of a discourse analyzed using a method in which the speaking turns of each participant are transformed into a binary on/off signal and record on paper by means of a level recorder. S_1 and S_2 are two Finnish students of English, T the British teacher.

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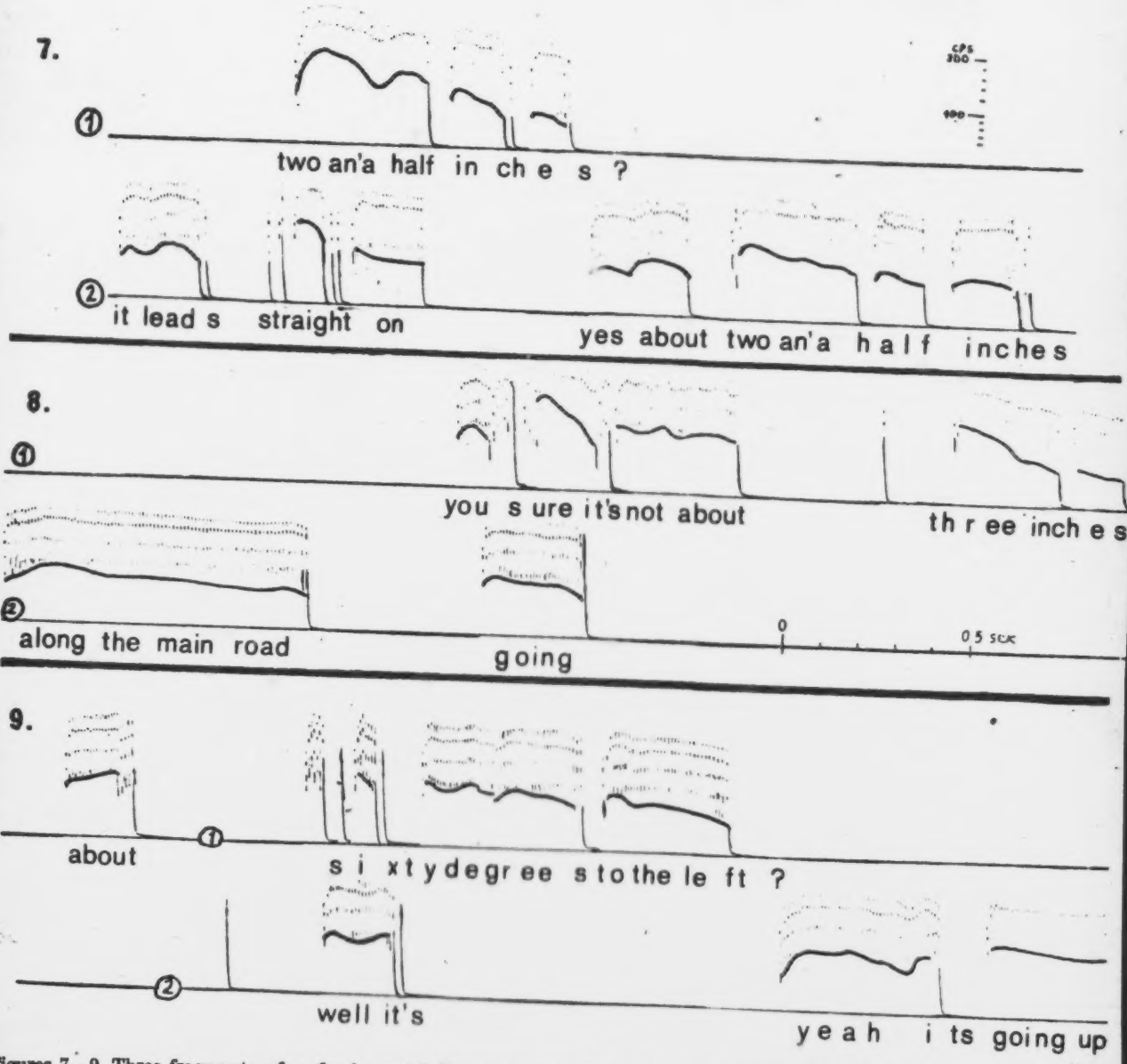

Figures 7—9. Three fragments of a fundamental frequency recording of a spontaneous telephone discourse of two native British male speakers. In each fragment the participants speak simultaneously, which is a rather common phenomenon in natural discourse. Further on, in each case the move of speaker [7] must be interpreted as a yes—no question where a special intonation contour, "tune two", should be applied according to textbooks. Speaker (1) does not, however, use any rising fundamental frequency pattern but a falling pattern of a "declarative" sentence.

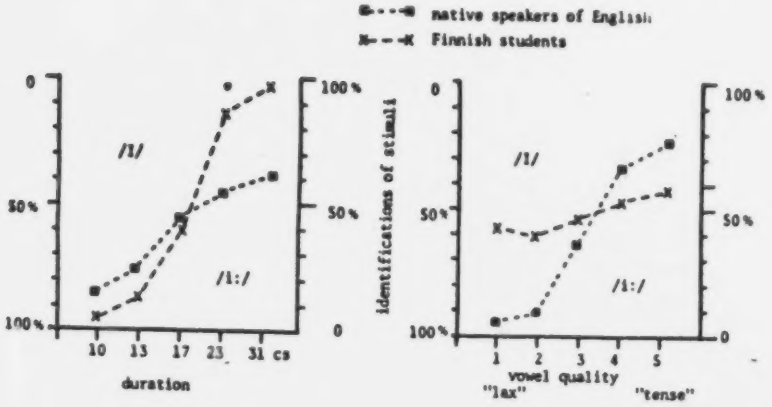

Figure 10. The responses of native speakers of English and Finnish students of English to various cues of the tense-lax distinction. The chart on the left shows the effect of the change of vowel duration on vowel identification. The chart on the right shows the respective responses to changes in the acoustic structure of the vowel. The diagrams show that a change in the quality or formant structure was for the native speakers of English the stronger of the two cues tested. However, the change from a "lax" to a more "tense" vowel quality hardly affected the identifications of the Finnish students of English. On the other hand, changes in the duration of the vowel, which affected the identifications of the native speakers only a little, have a dramatic effect on the identifications by the Finns. The test thus reveals that a Finn does note apply the correct cues of identification when discriminating between tense and lax vowels. The diagrams are based on studies with synthestic speech by Raimo and Suomi (1979). For further discussion and test results, see Lehtonen and Sajavaara, eds., (1979).

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PRELIMINARIES TO THE STUDY OF COMPARATIVE WORDS IN ENGLISH AND POLISH

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1. *Introduction*

We assume that the term 'comparative' should be used to describe various structures relating to the process of comparison. The majority of recent works on comparative structures is concerned with conventional comparative sentences only (cf Bresnan 1973), a marginal treatment, if any, being given to other than the grammaticalized sentential means of expressing comparison (cf. Bartsch&Vennemann 1972, Post 1978). In this paper, we will be concerned with comparative words, i.e., such lexical items which relate to comparison. To our knowledge, English and Polish do not have complete and exhaustive descriptions of such words, although scholars do qualify certain lexical items as the exponents of comparison (cf. Huddlestone 1971, Anderson 1971). Consider, for example, the following passage from Anderson (1971:17):

> ...many simple items (verbs, prepositions, nouns) represent the same underlying relations as 'overt' comparative structures. Consider such different types as *prefer* ('like more'), *darken* ('become darker or dark'), *exceed* ('become greater than'), *beyond* ('further than'), *after* ('later than'), *top* ('highest point'). [...] an underlying configurational representation for such items seems appropriate; [...] such representations have alternative realizations, which, in a sense, retain more of the abstract structuring.

The reason why we have included the passage from Anderson's work is that it celarly specifies certain characteristics of comparative words. According to Anderson,

(1) comparative words can be of different grammatical categories;

(2) comparative words involve the same comparison relations as comparative sentences do;
(3) comparative words and comparative sentences are alternative realizations of the same underlying representations;
(4) comparative sentences retain more of this underlying representation than comparative words do.

With the linguistic material presented below, taken from English and Polish, we hope to support the observation that comparative words are of different grammatical categories. The comparative words surveyed in this paper will be adjectives, adverbs, verbs, and prepositions.

Claim (2) logically follows from the assumption that the constitutive property of a linguistic expression is its relational meaning (cf. Klemensiewicz 1958). Consequently, expressions of the same semantic type have the same relational meaning. Since comparative sentences involve various comparison relations, it is only natural to suggest that comparative words involve the same semantic relations.

The plausability of claim (3) is evidenced by current linguistic literature, especially of the generative semantics type. There exists ample evidence that markedly different surface expressions are alternative realizations of the same semantic structure. Thus, we think that it is justified to assume that comparative words and comparative sentences are alternative realizations of the same underlying representation.

To ascertain whether comparative sentences retain more of the underlying representation than the comparative words, requires (a) prior specification of the relevant aspects of the semantic relational structure underlying comparative constructions, and (b) establishing which of these aspects are reflected in comparative sentences.

As regards (a), it is assumed after Post (1978), that
(1) the basic comparison situation involves two terms, a property shared by these terms, and a relation of comparison;
(2) one of the compared terms functions as the point of reference (standard of comparison) for the other term;
(3) comparison relations can be optionally quantified, hence quantitative and qualitative comparative constructions should be distinguished;
(4) the property with respect to which a relation of comparison is established between two terms is left unspecified in the semantic structure of qualitative comparative constructions. In such a case, it does not surface but is rather implied by the standard of comparison.

As far as (b) is concerned, a typical comparative sentence obligatorily lexicalizes the terms of comparison and the relation, 'bare' or quantified. Fillmore (1971:537) even says that one of the functions of the comparative construction is to make the comparison relation and the two terms of this

relation accesible. Additionally, the shared property is either given explicitly in the surface structure (in the quantitative constructions), or is implied by the standard of comparison, i.e., the second term (in the qualitative type).

The examination of the collected material showed that (a) comparative words reflect only some of the aspects enumerated above, and that (b) comparative words differ among themselves as to which of those aspects they reflect. This second finding served us as a basis for grouping the collected material into the following four groups:

(1) comparative words which denote various comparison relations;
(2) comparative words which involve a quantified relation and a property;
(3) comparative words which involve comparison relation and the second term;
(4) comparative words which additionally involve 'non-comparative' semantic elements.

We are in a position now to discuss the linguistic material that we have found in English and Polish grammars. The presentation will not be a systematic contrastive study, but should rather be viewed as the evidence for the existence of the same linguistic problem both in English and Polish.

2. *Comparative words which denote various comparison relations*

A study of comparative words of this class has to be preceded by a prior establishing of the set of comparison relations. To our knowledge, there does not exist any account of this sort in the linguistic literature of both languages involved. Besides, the number of elementary comparison relations recognized in individual works varies from author to author.[1] In view of this inadequacy, it is not surprising that the comparative words reported upon in this section denote the generally recognized comparison relations, such as superiority, identity and equality.

In English, we have been able to find two works whose authors treat certain lexical items as the exponents of the underlying comparison relationship. In Bach (1968:120—121), it is suggested that the verb *surpass* expresses the same semantic relationship as *more... than*. This suggestion is supported by the fact the that *more... than* sentences can easily be replaced with expressions containing the verb *surpass* in exactly the same function as the marker *more...than*, i.e. a formal exponent of the comparison relation of superiority:

(1) a. Bill is shorter than John.
    b. John is taller than Bill.

[1] For example, Jespersen (1929) assumes that there are three basic comparison relations, Sapir (1944) suggests that as many as fifteen different comparison relations should be recognized. In a recent study on comparative constructions by Jurkowski (1976), ten distinct comparison relations have been distinguished.

(2) a. Bill is surpassed by John in tallness (height).
b. John surpasses Bill in tallness (height).

In Post (1978), the adjectives *same*, *identical* and *equal* have been discussed. They function as the exponents of the elementary comparison relation of identity, and consequently, the constructions containing these three lexical items should be treated as comparative constructions of identity *par excellence*.

In our interpretation, *same* lexicalizes the bare relation of identity. *Identical* is regarded as the marked counterpart of *same*, which additionally informs about the commitment of the speaker to the truth of the proposition involving the relation of identity. The adjective *equal* is assumed to stand for the derived relation of equality, i.e., quantified relation of identity.

Our discussion of these three adjectives was confined to their function as predicatives of the copulative verb *be*, as in the following:

(3) a. John and Bill are {the same / identical / equal}

b. John is {the same as / identical to / equal with} Bill.

(3a) represents the case when both compared terms are topicalized. In the case represented by (3b), the comparison relation and the standard are made the comment.

Since the optimal lexicalization of the semantic representation underlying comparative constructions additionally includes the presence, in the surface structure, of the property attributable to the compared terms, we observed that this is achieved with *same*, *identical* and *equal* by adding the following complements:

(4) a. in the way {that / which} S
b. in NP

The NP of (4b) can be a nominal defining a mode of action, as in (5a), or an abstract measurable, but not directly observable, property, as in (5b):

(5) a. John and Bill are {the same / identical / *equal} in gestures.

b. John and Bill are {the same / identical / equal} in height.

Except for *equal*, which occurs only in quantitative comparatives, the remaining two adjectives occur both in quantitative and qualitative comparative constructions. This observation is evidenced by the incompatability of *equal* with complements denoting unspecified mode of action (see (5a) above).

In Polish grammars, we did not manage to find a descreiption of lexical items expressing various comparison relations. We have only come accross with a written suggestion in Karolak (1972) that the words, which are evidently the Polish counterparts of *surpass, same, identical, equal* and the like, should be interpreted along the lines described above. Karolak (1972:136) explicitly states that lexical items like *różny/different, inny/other, różnić się /differ, być podobny/be similar, taki sam/the same, przewyższać/exceed* are the exponents of various comparison relationships.

3. *Comparative words which involve a quantified comparison relation and a property*

This group of comparative words includes such adjectives as *long-short, tall-short, high-low, wide-narrow, deep-shallow, large-small* etc. Adjectives of this class exist in pairs of antonyms such as those quoted above. Each pair of antonyms is semantically based on the concept of scale which for each pair represents the relevant dimension. Thus the pair *long-short* is based on the concept 'length', the pair *large-small* on the concept 'size' etc.

One of the antonyms in each pair is the marked member of the opposition, the other being one unmarked. The unmarked member represents the underlying dimension as a whole. In other words, there is no presupposition such as *John is is tall* attached to propositions of the form *John is x feet tall*. On the other hand, a proposition such as *John is 5 feet short* (with the marked member of the pair *tall—short*) carries with is the presupposition "John is short".

It has been claimed by many grammatians that antonymous adjectives are implicitly comparative, i.e. the form of the positive degree of these adjectives expresses the relations 'more than' and 'less than' (cf. Sapir 1944, Lyons 1968, Bartsch&Vennemann 1972). According to this approach, a sentence like (6)

(6) John is tall.

should be interpreted as 'John is taller than the average height of man', because to say that a person is tall is to place him above the point which in the speaker's evaluation represents the average height of man.

A similar interpretation of the positive degree of antonymous adjectives can be found in Polish sources as well (see Wierzbicka 1971, Topolińska 1975, Jurkowski 1976). Wierzbicka, Topolińska and Jurkowski assume that the Polish counterparts of the English antonymous adjectives express internal

comparison too In the syntactic structures including a positive form of such adjectives, only one term of comparison is externalized; the second, i.e., the average is present only *in potentia*.

We think that in the group of comparative words which denote comparison relations and a property, Geis's analysis of *before* and *after* time prepositions should also be included (Geis 1970). Geis has argued that *before* and *after* are alternative lexical realizations of the subtree underlying *earlier than* and *later than* respectively (Geis 1970:237).For Geis, the following two examples have the same underlying structures:

(7) a. John went home {before / after} Frank did.

b. John went home *at a time which was* {earlier / later}

than the time at which Frank went home.

To our knowledge, there does not exist in Polish a study in which time prepositions are explicitly interpreted as expressing comparison relationships.

4. *Comparative words which involve 'bare' comparison relation and the standard of comparison*

4.1. *Comparative adjectives in Polish*

From the morphological point of view, the adjectives to be discussed in this section are derived from nouns through suffixation.[3] The adjectives of this type define the shared property indirectly. In uttering them, the speaker assumes that the designatum of the noun stem of the adjective suffices to specify the property unambiguously.

Smółkowa&Takiel (1977) distinguish seven different suffixes with which denominal comparative adjectives are formed.

a. Siffix *-ski*

e.g. oko *snajperskie* — 'sniper eye'
oportunizm *lewacki* — 'leftist extremist opportunism'

b. Suffix *-owski*

e.g. zygzaki *picassowskie* — 'pseudo-picassian zigzags'
fryzura *bitlesowska* — 'The Beatles hair style'

[3] The Polish examples given in this section are due to Smółkowa and Takiel (1977).

c. Suffixes *-i||y, -czy, -niczy*

e.g. *cyklopie* spojrzenie — 'cyclopean look'
uchodźcza dola — 'refugean fate'

d. Suffix *-owaty*

e.g. *tyczkowaty* młodzieniec — 'rod-like youngster'
skrzyniowate łoże — 'trunk-like bed'

e. Suffix *-asty*

e.g. *kleszczaste* palce — 'claws-like fingers'
konopiasta czupryna — 'towy shag'

f. Suffix *-aty*

e.g. *pyzate* dzieci — 'doughnut faced children'
gąbczata twarz — 'spongy face'

g. Suffix *-isty/ysty*

e.g. substancje *kleiste* — 'gluey substances'
jedwabiste rzęsy — 'silken eyelashes'

Gawelko (1977) additionally mentiones two other adjective-from-noun forming suffixes:

h. Suffix *-ow*

e.g. *kredowa* bladość — 'chalky pale'
alabastrowa cera — 'alabaster-like complexion'

i. Suffix *-an*

e.g. *lniane* włosy — 'flaxen hair'
słomiane wąsy — 'strawy moustache'

Considering the link between comparative adjectives and the nouns they modify, two distinct cases can be distinguished according to Heinz (1957). Case (1) is illustrated by the following example:

(8) mina *ułańska* — 'uhlan look'

Heinz says about expressions like (8) that the entity denoted by the surface noun (*mina/look*) is similar to the same entity (*mina ułana/uhlan look*) denoted by the designatum of the nominal stem of the adjective (*ułan/uhlan*). The second term of comparison (*mina ułana/uhlan look*) does not occur in the surface structure but is defined by the nominal stem of the adjective.

Case (2) is illustrated by (9):

(9) dzieci *pyzate* — 'doughnut faced children'

According to Heinz, in expressions like (9), the entity denoted by the surface noun (*dzieci/children*) implies an object which is perceived as similar to the entity denoted by the nominal stem of the adjective (*pyzy/doughnuts*).

It seems to us that considering the link between comparative adjectives and the nouns they modify, still another case should be distinguished as well.

Consider the following:

(10) *słupowate* nogi — 'pillar-like legs'

In expressions like (10), the entity denoted by the surface noun (*nogi/legs*) is similar to the entity denoted by the nominal stem of the adjective (*słupy/pillars*).

Smółkowa&Tekiel (1977) observed that Polish has comparative adjectives which, from the morphological point of view, are compounds of the type N+Adj:

(11) wełnopodobny — 'wool-like'
człekokształtny — 'man-like'

These compounds have the adjectives *podobny/similar* and *kształtny/like* as the second constituent of the compound. Their function is to denote the comparison relation. The function of the noun stem is to specify the second term of comparison, i.e. the standard.

4.2. *Comparative adverbs in Polish*

According to Grzegorczykowa (1975) and Smółkowa&Tekiel (1977), there are in Polish comparative adverbs. They fall into two morphological groups:

(1) suffixal adverbs, formed from denominal adjectives with the suffix *-o*'
e.g. *moralitetowo* uproszczony — 'simplified in the morality play manner:

(2) prefixo-suffixal adverbs, formed with the prepositional prefixes *po-* and *z-*, and the suffixes *-u* and *-a*:
e.g. zachował się *po prostacku* — 'behave like a boor'
akcentować *z wileńska* — 'speak with the accent characteristic of Eastern provinces of the Pre-War Poland'

These comparative words inform about the similarity of the subject and the entity denoted by the nominal stem of the adverb, in respect of the action specified by the verb.

Suffixal adverbs are formed from denominal adjectives ending in *-ow-*, *-owat-*, *-sk-*, and *-ast-*:

(12) *albumowo* wydana monografia — 'album edited monograph'
kołnierzowato rozszerzony — 'collar-like extended'

aktorsko podkreślić tragizm sytuacji — 'to emphasize the seriousness of the situation theatrically'
drzewiasto rozgałęzione żyły — 'tree-like remified veins' and directly from nouns:

(13) *szczeniaczo* całować — 'teenage kissing'
wilczo szczerzyć zęby — 'wolfish grin'

Considering the morphology of the prefixo-suffixal comparative adverbs, three subgroups can be distinguished. The first group includes those adverbs which are formed from denominal adjectives ending in *-sk-*:

(14) po aktorsku — 'like an actor'
po dżentelmeńsku — 'like a gentleman'

Group two oncludes adverbs based on adjectives ending in suffixes other than *-sk-*. The adverbs of this group are formed with the prepositional prefix *po-* and the dative of the adjective:

(15) po cywilnemu — 'in a civilian way'
po wiosennemu — 'in a spring fashion'

Finally, group three comprises adverbs formed with the prepositional prefix *z-* and the suffix *-a*:

(16) z niemiecka — 'like a German'
z wileńska — 'like a resident of Eastern provinces of the Pre-War Poland'

4.3. *Comparative verbs in English*

Duszak (1978) observed that in English there are verbs which express a resemblance of behaviour between two entities. She has in mind such verbs as *to ape*, *to dog*, *to wolfe* etc.

(17) a. John aped his mother.
b. Reporters have dogged him for years.
c. He wolfed the entire salad.

The verbs of this class are of the same general pattern 'X acts like Y', where X stands for the agent and Y for the designatum of the verb. The verbs of this semantic class imply an object which fulfills a comparative function; it is used to show an analogy that exists between it and some other object.

In the above case, the confrontation of the two terms is performed in terms of behaviour. But such a confrontation can also be performed in terms of various physical qualities such as shape, colour, consistency etc. Duszak

distinguished two classes of verbs expressing resemblance of physical properties between two entities. The first class is of the genral pattern 'X becomes like Y':

(18) The bridge arched across the river.

The second class is of the pattern 'X make Y become like Z':

(19) John arched the branch.

These two types of verbs point out to the fact that X/Y acquire some features which make it similar to the idea inherent in the designatum of the implied object.

5. Comparative words which additionally involve 'non-comparative' semantic elements

The comparative words of this class involve various comparison relations, alongside with other 'non-comparative' semantic elements. We suggest that the verb *prefer*, mentioned by Anderson, qualifies as such a word. It is irrelevant whether the analysis of *prefer* into *like* and *more* is detailed enough. We think that even a more refined semantic decomposition of this verb would reveal the presence of a semantic element representing the relation of superiority, indicated in Anderson's interpretation by *more*.

Postal's discussion of the verb *remind* (Postal 1970), is another instance of an analysis postulating a combination of a semantic element representing comparison relation with another non-comparative semantic element. Actually, Postal does not say that *remind* relates to comparison at all, however, he stipulates that *similar* be an underlying element in the semantic structure of this verb. In his analysis, *remind* involves the predicates STRIKE and SIMILAR. The entire analysis probably cannot be maintained, but the fact that the verb *remind* involves the comparison relation of similarity is indisputable

In her work, Duszak (1978) discusses verbs like *model, caricature, pattern, paraphrase* etc., to which she assignes the general pattern 'X produce Z in relation to Y'.

(20) a. John caricatured his aunt.
b. She patterned her dress after her sister.
c. He paraphrased her words in his own way.

Duszak does not specify the relation in which Z stands to Y, i.e. the object produced to the original. It is plausible that the relation here is that of similarity. If so, then a more accurate pattern should be something like 'X produce Z similar to Y'. If our interpretation of the verbs *model, pattern, parody* and the like is correct, then they should also be subsumed under the class of comparative words.

6. *Conclusions*

The general conslusions that we want to emphasize are as follows:

(1) English and Polish have lexical items which, in various ways, relate to the process of comparison;
(2) these lexical items are of different surface category;
(3) they reflect only certain aspects of the semantic relational structure underlying comparative constructions;
(4) they differ among themselves as to which of these aspects they reflect.

We hope to have sufficiently supported (1) and thus provided justification for undertaking of a detailed crosslinguistic study of words relating to comparison.

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DEFINITENESS, PRESUPPOSITION, AND ANAPHORICITY IN *THERE*-SENTENCES AND ADJECTIVAL PREDICATE CONSTRUCTIONS

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In the paper "Definiteness in there-sentences", *Language 2*, June 1978, E. Rando and D. J. Napoli suggested, with strong empirical support, that such terms most typically used to describe restrictions on there-sentences, as *definiteness* and *indefiniteness* be replaced by *anaphoricity* and *non-anaphoricity*.

To substantiate this suggestion, they tried to generalize the term 'non--anaphoric' as "the most accurate and syntactically testable" (309). In the concluding part of the paper they "would like to suggest that this type of analysis can be fruitfully applied to many other syntactic phenomena" (311).

In the present paper, my intention is to analyse the reliability of the above intuitions on the part of the authors when the chosen grammatical corpus is the *adjectival predicate constructions* (Rosenbaum 1967:100-108).

To start with, let us recall that, up to now, the syntactic classification of the corpus under discussion has been based on either syntactic (e.g. Rosenbaum 1967:100-108) or semantic (e.g. P. Kiparsky and C. Kiparsky 1971, or Jackendoff 1972) criteria. Putting aside the syntactic criteria for obvious reasons' the competing semantic criteria in our case will be *anaphoricity/non-anaphoricity*, on the one hand, and *factivity/non-factivity* as correlated with *presupposition placement*, on the other.

According to Kiparsky and Kiparsky (1971), syntactic differences among the variants of complementation are correlated with semantic differences. Most of the syntactic reality in a given sentential sequence can be explained and determined by such contrastive notions of semantic value as *factive/non-*

factive. In this way, semantic differences between factive and non-factive complement paradigms can be related to their syntactic differences.

The division into *factive/non-factive* is based on the deep-structure level of linguistic representation. As far as the grammatical corups chosen for the present analysis is concerned, closest to the factive deeps tructure are constructions of the type:

(1) a. John is happy about sth
John lives in London
$\Rightarrow$ John is happy (about the fact) that he lives in London

b. I am aware of sth
John lives in London
$\Rightarrow$ I am aware (of the fact) that John lives in London

— and, closest to the non-factive deep structure, might be, e.g.:

(2) a. Sth is likely
Tom lives in London
$\Rightarrow$ It is likely that Tom lives in London

b. Tom is eager for sth
Tom to live in London
$\Rightarrow$ Tom is eager for Tom to live in London $\Rightarrow$ Tom is eager to live in London

It should be stressed, though, that the above mentioned controlling function of factivity/non-factivity is strictly correlated with *presupposition placement*. In sentences (1), with *factive* complement, the speaker first presupposes that the embedded clause expresses a true proposition, and *then* makes some *other assertion* (tells something else) about it — according to the interpretation: "I presuppose that John lives in London and *assert* that he is happy about it". As the presupposition is the first-step judgement on the truth value of a given proposition on the part of the speaker, the only conclusion that may be drawn is that factivity depends on presupposition and not on assertion. In contrast to the factive variant, there is no presupposition on the part of the speaker in non-factive clauses (2) in which the speaker *first* asserts in the main clause that the proposition *Tom lives in London* is likely. In this way, the 'likeliness' of the proposition blocks any preceding presupposition placement; that is why the non-factive clauses are semantically simpler.

In contrast to the above interpretation, Jackendoff's approach (1972) to the problem shows a variety of distinctions. First, presupposition placement is determined directly on the surface, and not in the deep structure, though it remains a purely semantic notion and retains all its semanto-syntactic relations and controlling potentialities which are characteristic of the system of 'Fact' Second, according to Jackendoff (1972:241), "a well-formed semantic interpretation of a sentence *must* be divided into Focus and Presupposition. "If so,

also non-factive variants (2), contrary to the theory of 'Fact', *must* have their presuppositions; hence the division into Focal and Inherent Presupposition in Jackendoff's system — the former corresponding with the non-factive, 'non-presuppositional' variant of the 'Fact' theory, and the latter, with its factive counterpart.

According to its term, the *focal* presupposition and its placement are strictly related with the notion of *focus* and its *assignment*. "We use the term *focus* of a sentence to denote the information in the sentence that is assumed by the speaker not to be shared by him and the hearer, and *presupposition* of a sentence to denote the information that is assumed by the speaker to be shared by him and the hearer" (Jackendoff 1972:230). In this sense, our discourse is natural if successive sentences *share* presuppositions, that is, if the two speakers agree on what information they have in common. The 'newness' of the information denoted by the focus is formally explicated phonologically by a special *stress placement*, and semantically, by the observation of a special *Rule of Focus Assignment* (Jackendoff 1972:240): "the semantic material associated with surface structure nodes dominated by F is the Focus of the sentence. To derive the presupposition (focal), substitute appropriate *semantic variables* for the focussed material".

From what the rule says, then, the appropriate semantic variables are to be substituted for the Focus — to form a *focal presupposition*, The variable must be chosen in such a way that "it defines a coherent class of possible contrasts with the focus, pieces of information that could equally well have taken the place of the focus in a sentence, within bounds limited by *the language*, *the discourse*, and *the external situation*" (Jackendoff 1972:243). The condition on the choice of a given variable, then, is that the variable have the same semantic form as the focus. To show how it works, let us analyse our non-factive, 'non-presuppositional' examples (2 a, b), in the following discourse:

(3) a. A: Where does Tom live now?
B: It is *likely* that he lives in London
A: Well, it is *possible* that he does but I'm not quite certain.

b. A: Say, Tom is *eager* to live in London
B: Oh, no! He is *unwilling* to live there.

In the above examples, the marker F dominates both *likely* and *possible*, on the one hand, and *eager* and *unwilling*, on the other. These are *contrastive variables* of the same *semantic form*. What is shared by the speaker and hearer in these sentences then, and what is presupposed as a result, is 'the sameness' of the semantic form. The information which is not shared by the speaker and the hearer, the 'newness', is represented by the respective, contrastive variables which are correlated with and dominated by the focal part of the utterance.

It is characteristic of this type that both — *presupposition placement* ('the sameness' of the semantic form) and *contrastive variables assignment*, take place within the main clause.

When under a closer examination, the above semantic relations characteristic of the type under discussion show a specific resemblance to the paradigmatic relations appearing on the *syntactic* level of linguistic description; at least when they refer to the principle of *substitution*:

(4) a. Syntactic form ('the sameness of'):

It is { probable / likely / possible / *probably / . / n } (that he lives in London)

b. Semantic form ('the sameness of'):

It is { improbable / possible / probable / likely / probably / . / n } (that he lives in London)

ø ø

semantic (contrastive) variables

If it is so, *presuppositional placement* in this type is based on *subjective, substitutional* concept of the objective identity of the semnatic *form* according to the 'vertical' dimension which is characteristic of the paradigmatic relations in syntax:

(5) a. Concept: Presupposition

↓

the sameness of semantic *form* [+objective]

↓

b. Semantic variables: +subjective on the part of the speaker { . / . / n }

↓

'newness'

Focal substitution — "within bounds limited by the language, the discourse, and the external situation".

To compare now, the *inherent presupposition* belongs to quite a different 'dimension' in this sense. First, it is not based on the *concept* but on *observation* and *reflection* on the part of the speaker and must be supplemented by something *new*, which is not shared by both the speaker and the hearer. The presupposition being placed on the embedded clause as a rule, the reference between the presupposition and the *new* information (assertion) on the part of the speaker resembles, contrary to the previous type, rather 'syntagmatic', 'horizontal' relations:

(6) Tom is *happy* (ab. the fact) *that he lives in London*

$$\begin{bmatrix} +\text{subjective} \\ +\text{'newness'} \end{bmatrix} \longleftarrow \begin{bmatrix} +\text{objective} \\ +\text{fact} \end{bmatrix}$$

To summarize, here is the formalization of the two presuppositions:

(7) a. Focal Presupposition

$$\begin{bmatrix} +\text{SUBSTITUTION} \\ \text{('paradigmatic')} \\ +\text{CONCEPT} \\ \\ +\text{OBJECTIVE} \\ \text{(semantic form)} \\ -\text{'NEWNESS'} \rightarrow \\ +\text{'NEWNESS'} \\ \text{(semantic variables)} \end{bmatrix}$$

b. Inherent VPresupposition

$$\begin{bmatrix} +\text{OBSERVATION and} \\ \text{REFLECTION} \\ +\text{LINEAR} \\ \text{('syntagmatic')} \\ +\text{OBJECTIVE} \\ \\ -\text{'NEWNESS'} \end{bmatrix}$$

Owing to the fact that these two presuppositions belong to two different 'dimensions' of linguistic realization, the sentences with inherent presupposition (6) are, in fact, 'two-presuppositional' because the inherent presupposition, as resulting from OBSERVATION, triggers the focal presupposition automatically. It depends only on the kind of discourse whether the focal presupposition involves semantic variables, or not:

(8) a. A: Tom is *happy* that he lives in London
B: Yes, he really is (*happy*)

b. A: Tom is *happy* that he lives in London
B: But he is *unhappy* that he lives there

The referential relation between the two presuppositions may be generalized, as follows:

(9) II. Focal Presupposition ← I. Inherent Presupposition

CHOICE 2 CHOICE 1

↓ ↓

[IMPLICATION / +CONCEPTUAL] ← Stimulus 1 — [+OBSERVATION and REFLECTION]

(semantic *Form*) ⟨Embedded Clause⟩

↓

CHOICE 3

|

[VARIABLES / +SEMANTIC] ← Stimulus 2

|

[+SUBJECTIVE / +'NEWNESS']

{1.— — — / 2.— — — / 3.— — — / n.— — —}

⟨Main Clause⟩

Inversely, the type with focal presupposition, as based on CONCEPT, is a 'one-presuppositional' type:

(10) I . Focal Presupposition

CHOICE 1

|

[IMPLICATION / +CONCEPTUAL] ← Stimulus 1

↓

II. CHOICE 2

[+SEMANTIC VARIABLES / +SUBJECTIVE]

|

{1.— — — / 2.— — — / 3.— — — / n.— — —}

⟨Main Clause⟩ ——→ ⟨Embedded Clause⟩

From what has been presented up to now, it is easy to notice the importance of temporal reference in the classification of the structures under discussion. Thus in the type (9), the placement of inherent presupposition precedes the placement of focal presupposition. Using other words, we might say that the

placement of inherent presupposition stimulates the placement of focal presupposition which, in turn, stimulates a subjective and optional placement of the semantic variables. Contrary to this type, in type (10), the placement of focal presupposition is a primary conceptual stimulus for the involvement of above mentioned semantic variables on the part of the speaker/hearer.

The second vital observation is the possibility of correlation between *factual orientation* and *definiteness*, on the one hand, and between *conceptual implication* and *indefiniteness*, on the other. We might simply say that factual orientation entails definiteness on the embedded clause whereas conceptual implication entails indefiniteness on both clauses. Now, it is enough to correlate the contrast *definite/indefinite* with the *temporal reference* of the two types under discussion to draw the conclusion that the *primary* placement in the type (9) is definite, and the *secondary* placement is idnefinite:

(11) II. Focal Presupposition ← I. Inherent Presupposition

$$\begin{bmatrix} \text{IMPLICATION} \\ +\text{CONCEPTUAL} \end{bmatrix} \qquad \begin{bmatrix} +\text{OBSERVATION} \\ +\text{DEFINITE} \end{bmatrix}$$

III. $\begin{bmatrix} \text{VARIABLES} \\ +\text{SEMANTIC} \end{bmatrix}$

[−DEFINITE]

It should be observed here that the focal presupposition has a double temporal reference depending on which 'dimension' is under discussion. Strictly, if focal presupposition is 'dominated' by inherent presupposition, it is secondary; if, however, it 'dominates' semantic variables ('vertical' dimension), it becomes primary and defines these variables semantically. As a result, the focal presupposition, contrary to the inherent one, is primary exclusively in type (10):

(12) I. Focal Presupposition: 'the sameness' of semantic form

$$\begin{bmatrix} \text{IMPLICATION} \\ +\text{CONCEPTUAL} \end{bmatrix}$$

[+DEFINITE]

II. SEMANTIC VARIABLES + ⟨Embedded Clause⟩

[−DEFINITE]

The above tempral and definite/indefinite conditioning stands for a fundamental classificational principle in a number of English structures. Further, a number of semantic controlling contrasts are strictly correlated with this very

principle. As E. Rando and D. J. Napoli indicate "there are strong connections, and often only subtle distinctions among the members of each of the two contrasting sets: on the one hand, — topic, theme, presupposition, definiteness, anaphoricity, initial position, and old information; on the other, — comment, rheme, focus, indefiniteness, non-anaphoricity, final position, and new information" (1978:308). Although they refer this observation to the corpus of there-sentences, we may prove now that the same is characteristic of the corpus under discussion. Let us analyse, first, the surface-structure representations of the sequences:

There are tigers in India
It is likely that he lives in London

(13) a. There are tigers in India

{[+DUMMY, +THEME, +TOPIC, +DEFINITE, +INITIAL]}	{[+SUBSTITUTIONAL, +CONCEPT, +'VERTICAL', +CHOICE, −DEFINITE, +COMMENT, +RHEME, +FOCUS, +NON-INITIAL, +NON-ANAPHORIC, +NEW INFORMATION]}

b. It is likely that he lives in London

{[+DUMMY, +THEME, +TOPIC, +DEFINITE, +INITIAL]}	{[+SUBSTITUTIONAL, +CONCEPT, +'VERTICAL', +CHOICE, −DEFINITE, +COMMENT, +RHEME, +FOCUS, +NON-INITIAL, +NON-ANAPHORIC, +NEW INFORMATION]}

The analogy between these two structures being obvious now, let us observe additionally that both of them belong to the type in which the placement of the initial dummy arguments has been triggered by syntax and not meaning (see G. Leech 1974:185). In case of (13a), according to E. Rando and D. J. Napoli (1978:308), "*there* insertion, viewed functionally, is a transformation designed to provide a dummy theme or topic — definite in form (witness the *the* in *there*), in initial position — in a sentence which would otherwise have none. The comment is moved out of initial position so that it may be more strongly emphasized or focussed upon." (see also Thematization in G. Leech 1974:198). In the second sequence, (13b), 'it' duplicates the real theme "he lives in London" as a result of the application of extraposition transformation, for the same reason.

What the reader should observe now is that though the argument "*he* lives in *London*" consists of separate definite items, and though *definiteness* belongs to the same contrastive set as *presupposition* does (Rando and Napoli 1978: 308), no presupposition can be placed on it in type (10). This happens because it is not the definiteness of the *individual items* in the argument (clause) that determines presupposition placement in type (10) but the *indefiniteness of the whole fusion of them* resulting from a primarily presupposed conceptual implication of the semantic *form* on the part of the speaker (in the main clause), and of his *choice* of one of the optional semantic variables. In this way, the definiteness of an isolated embedded clause has been 'indefinitized' and, in a sense, 'neutralized' — which may be confirmed by the neutrality of the 'dummy' initial argument 'it'. In this respect, a potential definiteness of the embedded argument has been blocked, together with its syntactic positional preverbal orientation:

(14) *That he lives in London is likely

In this sense, both, there-existential structures and the ones represented here as type (10), are semantically oriented by focal presupposition exclusively and, in fact, belong to the same type.

As a result of the above argumentation, an important correlation may be inferred, namely, that the argument "that he lives in London" corresponds strictly to Milsark's hypothesis (1974, 1977) referring to there-existential sentences — that in list there-sentences what is predicated as existing is the *entire list* — so that the quantifiers (a, the) on the individual members are irrelevant, as it is in (Rando and Napoli 1978:301):

(15) a. A. What's worth visiting here?
B: There's *the* park, *a* very nice restaurant, and *the* library. That's all as far as I'm concerned

— and, in our example:

(15) b. It is likely that *he* lives *in London*

The above examples explain why definites are allowed in list-there sentences (15a) and in embedded arguments (15b), and why the *whole* list in *existential* sentences, on the one hand, and the *whole, embedded* argument, on the other, should be classified as *indefinite*. In existential sentences, the 'newness' is an optional potential CHOICE of variables within a previously determined semantic FORM of these variables within a given list; in the sentences under discussion, the CHOICE is the *focal* part of the main clause imposing its indefiniteness on the whole embedded clause (argument) regardless of the definite/indefinite contrast in the individual members of this clause, and its factual orientation when in isolation. The above mentioned analogy is sufficient to generalize that the contrast of definiteness/indefiniteness is not a clear-cut and reliable classificational device when referred to the structures under comparison (15a, b). What really counts in this classification is that the speaker, before uttering his message, is left with a double CHOICE. First, he must determine whether his message will start with the reflection of a real world or, conversely, with his conceptual CHOICE of semantic FORM. Once he has chosen the latter alternative, his subsequent step will be the CHOICE of one of the optional SEMANTIC VARIABLES limited by the previously chosen semantic FORM.

Now one may easily notice that this double CHOICE is strictly correlated with the sequence of TIME and the notion of 'NEWNESS'. This correlation, as the present paper confirms at length, may be best exposed by the contrast anaphoric/non-anaphoric provided that the notion of anaphoricity is used in its broader sense (Kuno 1972). Traditionally, the anaphoric/non-anaphoric contrast is correlated with a 'forward' (anaphoric) or 'backward' (non-anaphoric) linear orientation in a sentence of discourse (though, as in the present paper, it may also operate in a 'downward' and 'upward' dimension). According to Kuno (1972), a given NP (here: argument) is anaphoric when it refers to something known or familiar to both speaker and hearer. What will be anaphoric in this sense in my corups then will be the embedded argument in type (9) which has been based here up to now on the principle of definiteness and inherent presupposition, and which is represented by a considerable number of structures, such as: Definite Names, Cleft Sentences, Tempral Subordinate Clauses, Nonrestrictive Relatives, Aspectuals, Iteratives, Prepositional Quantifiers (E. I. Keenan 1971). If the discourse stimulates the placement of both inherent and focal prasuppositions (as in (9)), the embedded clause will have anaphoric ('forward') reference — reflecting the information shared by the speaker and hearer; then the main clause will be marked kataphorically as revealing 'newness'. At the same time, the said main clause starts working anaphorically in a 'downward' direction when exposing the speaker's choice of semantic FORM, limited to him by the language, the discourse, and the external situation. The type with focal presupposition alone, (10), will, naturally,

take only vertical dimension into account in which the anaphoric ('downward') choice of semantic form will precede the kataphoric choice of semnatic variables ('newness').

Here are the concluding observations resulting from the present paper:

a. according to the suggestions of the authors of the paper "Definites in There — sentences", their concept of the superiority of the contrast anaphoric/non-anaphoric over that of definite/non-definite has been supported empirically in this paper when referred to the adjectival predicate constructions,

b. the definite/indefinite contrast does not work as a reliable classificational instrument in the corups under analysis,

c. a strong inclination is felt by the author of this paper that the contrast anaphoric/non-anaphoric in the sense described in this paper be considered as overlapping the contrast focal/inherent presupposition and, maybe, topic/-/comment, and theme/rheme (see G. Leech 1974:198 — Thematization). Owing to its classificational valours, it might, when formalized as, e.g. ANAPHORIC CHOICE/NON-ANAPHORIC CHOICE, even eliminate the above competing contrasts,

d. what is to be additionally stressed is the superiority of Jackendoff's interpretation of presupposition ('each sentence must have its presupposition') to the one presented by Kiparsky and Kiparsky (1971) ,owing to the fact that the former allows much deeper penetration and description of the semantic reality of the structures under discussion,

e. as a surface-structure classificational contrast, the anaphoric/non-anaphoric device may be confirmed as to its reliability by its corresponding deep structure Functional/Thematic Relations (the term used by Jackendoff — 1972:29):

(16) a. *Tom is happy* — RESULT ← {ANAPHORIC / CAUSE} — *Tom lives in London*

b. Something is significant — LOCATION ← {ANAPHORIC / THEME} — Tom loves Mary

c. Tom is eager for something — {NON-ANAPHORIC / SOURCE} → GOAL — Tom to go to London

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THE CATEGORIES OF SLAVIC VERBAL ASPECT IN ENGLISH GRAMMAR*

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1.0 The aspectual categories of *perfective* and *imperfective* have always been considered typical of Slavic languages, while their value in the grammars of other languages has been thought rather marginal. A number of authors have found that analogous categories may be used in formulating a few grammatical rules in some Germanic languages, including English, but their significance in those languages has been judged as quite minor compared to Slavic languages. This is so — these authors claim — because the difference between the two aspectual categories is morphologically marked in Slavic languages, but not, as a rule, in Germanic languages. My main point is that, in spite of the lack of overt markers (the lack is indeed not total), the perfective-imperfective dichotomy plays a very important role in English grammar: firstly, many regularities in that grammar that have up to now been completely missed can be stated by means of these two categories, and, secondly, some regularities that have previously been observed but have been rather awkwardly formulated and without sufficient generality can now be set up succintly and rigidly, in the manner of full-fledged grammatical rules.

1.1 The results of my work on verbal aspect have appeared in three publications (Ridjanović 1972, 1973, and 1976), the most comprehensive being the book *A synchronic study of verbal aspect in English and Serbo-Croatian*, which contains the material of my doctoral dissertation submitted to the Department of Linguistics of the University of Michigan in 1969. Most of what will be said here is to be found in these publications. The present paper

* A somewhat different version of this paper was presented to the 14th International Conference on Polish-English Contrastive Linguistics (Boszkowo, 7—10 December, 1977). The revisions made in the present version are based on critical observations of Conference participants and, in particular, of my opponent dr. Jan Rusiecki, to whom I owe special gratitude for valuable comments.

is a report on those results of my work that have special relevance for English grammar, supplemented with some new insights into the place and function of aspect in English and in grammar in general.

2.0 Before presenting the rules in which the two Slavic categories of verbal aspect can be used in the description of English, I would like to sketch out the main points of my reanalysis of aspect as a general grammatical category.

2.1 Of the various extant views of aspect, I have adopted as the basis for my own analysis the one proposed by Hockett in *A course in modern linguistics* in the following sentence: "Aspects have to do, not with the location of an event in time, but with its temporal distribution or contour". (Hockett 1958:237). Another possible qualification of this view of aspect would be to say that while tense accounts for the grammatical phenomena deriving from the *relative* time of the action or state expressed by a verb (that is relative to the moment of utterance or mental conception), aspect accounts for the phenomena stemming from the *absolute* time of the action or state of the verb, from its inherent temporal features that represent its "temporal contour", which does not change with a change of tense and which is present in both the finite and the non-finite manifestations of the verb, in fact most characteristically in the most neutral form, the infinitive. I would like to point out that the notion of *temporal contour* has been especially profitable in my work.

2.2 Although verbal aspect is usually attributed to verbs in isolation, especially in Slavic languages where a large majority of verbs carry built-in morphological markers of aspect, we will consider as aspectual all those grammatical phenomena that derive from the temporal contour of the *predicate phrase*. This means that although the verb generally occupies the central place in the determination of aspect due to its central position in the predicate phrase, it is also possible for adjectives and nouns to be aspectually marked in a grammatically significant way. For example, the English progressive (which, in my view, is only one manifestation of a more comprehensive aspectual category corresponding to the traditional imperfective aspect) is equally acceptable in all of the following sentences:

(1) He is joking.
(2) He is being funny.
(3) He is being a nuisance.

2.3 In order to establish relevant aspectual categories, I concentrated mostly on the syntactic constraints traceable to aspectual features of predicate phrases. Thus, I established an opposition of two aspectual categories in English corresponding to the Slavic imperfective-perfective opposition *not* by studying the meaning of isolated verbs forming such an opposition (I regard minor distinctions in the meaning of verbs, such as those introduced by prefixes in Slavic languages and particles in English, as properly belonging

to the study of the phenomena traditionally known by the German term *aktionsart*), but on the basis of the following difference in syntactic behaviour of verbs and VP's in English and Serbo-Croatian:

(4E) While he was coming here, he met a friend.	(4SC) Dok je dolazio ovamo, sreo je jednog prijatelja.
(5E) *While he came here, he met a friend.	(5SC) *Dok je došao ovamo, sreo je jednog prijatelja.

There are, in fact, a large number of syntactic contexts to which the two aspectual categories 'react' differently; the difference shows either as a difference in grammaticality (as illustrated by (4) and (5) above) or as a meaning difference, as in:

(6E) You must know her.	(6SC) Morate je poznavati.
(7E) You must meet her.	(7SC) Morate se upoznati s njom.

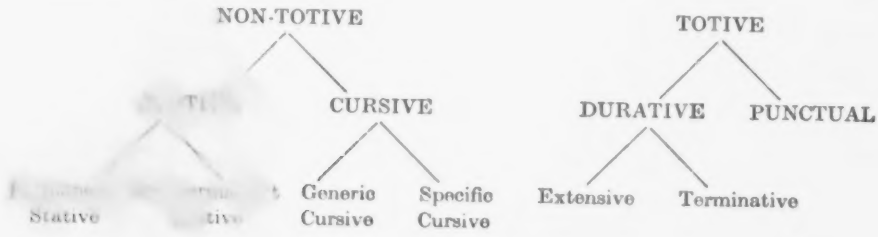
The main verb in (6) is imperfective and the modal meaning of the sentence (in both languages) is "logical necessity". The perfective in (7), however, rules out this meaning and assigns to the sentence the modal meaning of "obligation". Another difference between (6) and (7) is reflected in the time reference of the main verb: the imperfective verb of (6) refers to present time, the perfective of (7) to a future point of time.

2.4 The points of the foregoing paragraph were brought up only as an illustration of how syntactic criteria can be used in setting up aspectual categories in a more rigid and, therefore, I think, more satisfactory way than can be done by studying semantic differences between individual verbs. Other grammatical rules of English making use of the 'imperfective' and 'perfective' aspects will be set out in sections 5.1.1 and those following it.

3.0 My notion of syntax, especially as regards syntactic categories which are not overtly marked, owes much to Benjamin L. Whorf and his idea of *covert* categories set out in his article "Grammatical Categories" (Whorf 1956:87–101). The central heuristic device that Whorf introduces is the device of *reactance* used to designate grammatical manifestations of covert grammatical categories. Whorf's own example is the English intransitive whose 'reactance' is the lack of the passive participle and of the passive and causative voices. Thus, Whorf's *reactance* is, in fact, the precursor of "transformational potential" used by transformationalists in the establishment of deep structure (i.e. covert) grammatical categories. I have elaborated on this device by assigning to the notion of reactance any of the following grammatical manifestations: the possibility or impossibility of fitting a category into a specified structure (which I have called *positive* and *negative reactance* respectively), and meaning differences between the categories being contrasted in specified syntactic frames (which I call *semantic differential reactance*). Thus,

I say that imperfective and perfective are categories of English grammar because they 'react' grammatically to the structures of sentences (4)/(5) and (6)/(7) in paragraph 2.3 above: imperfective shows positive reactance to the structure (4)/(5), perfective shows negative reactance to the same structure, and, together, they show semantic differential reactance to the structure of (6)/(7). This "reactance theory", in my opinion, can account for what has been hailed as a major contribution of transformational theory, leaving the asterisk * (the typographic mark of negative reactance in my terminology) as, perhaps, its most important claim to fame.

4.0 Here now is the diagram of aspectual categories and subcategories which I have found it necessary to posit in both English and Serbo-Croatian to account for the reactance of aspectual nature that I have examined:



4.1 *Non-totive* and *totive* correspond to traditional imperfective and perfective aspects respectively. The older terms were found inadequate because they imply that 'perfective' verbs designate the completion of the action expressed by the corresponding 'imperfective', which, apart from being based on an idea of aspect inconsistent with my own, is hardly true of a large number of aspectual pairs, such as *vidjeti* — *vidjati* ('see' — 'see occasionally'). I find that the signaling of the completion of the verbal action, in Slavic languages usually by means of a prefix, is more in the nature of an aktionsart. I have, in fact, kept the term 'perfective' for an aktionsart occurring with two subaspects of the totive aspect (see Ridjanović 1976: 107—111 and diagram on p. 112). The term *totive* has been adopted because it represents best what I find to be the common aspectual denominator of all traditional 'imperfective' verbs: the indivisibility or totality of the temporal dimension or contour associated with them, even if the verb implies duration of some time, as with totive duratives (see section 4.5). The applicability of the two major aspectual categories in English grammar, illustrated in section 2.4, will be presented more fully in sections below, after a brief account of the other categories figuring in the above scheme.

4.2 The aspectual difference between the two subdivisions of non-totive

aspect, the ones I have called *stative* and *cursive*, is reflected in the following examples:

Stative	Cursive
(8E) *While the room measured 3 by 4 metres, the picture fell from the wall.	(9E) While we were measuring the room, the picture fell from the wall.
(8SC) *Dok je soba mjerila 3×4 metra, slika je pala sa zida.	(9SC) Dok smo mjerili sobu, slika je pala sa zida.

(10E) — What are you doing? — *I know English.	(11E) — What are you doing? — I am learning English.
(10SC) — Šta radiš? — *Znam engleski.	(11SC) — Šta radiš? — Učim engleski.

These examples show that the temporal contour of statives is totally devoid of any progression or development of either the state denoted by the verb or the time occupied by it — hence we cannot use any segment of it for a temporal reference of any kind (since, in fact, there *are* no segments), as illustrated by (8), nor can a stative co-occur with a grammatical category showing progression in time of whatever is expressed by the verb, such as the English progressive and the Serbo-Croatian *pravi prezent* ('real present tense'), as shown by the examples of (10). None of these restrictions apply to cursive verbs, as evidenced by the corresponding sentences in the right-hand column.

4.3 While the two sub-categories of stative aspect share the syntactic reactance set out in the foregoing paragraph, they have differences of their own based on the following reactances:

Permanent Stative	Non-Permanent Stative
(12E) *The following day the highway began to join Belgrade and Niš.	(13E) The following day he began to hate her.
(12SC) *Sutradan je autoput počeo da spaja Beograd i Niš.	(13SC) Sutradan ju je počeo mrziti (or: zamrzio ju je).

(14E) *He stood up and resembled his father.	(15E) He stood up and felt emberrassed.
(14SC) *Ustao je i sličio na svog oca.	(15SC) Ustao je i osjećao se zbunjeno.

I have given here only two reactances: one, illustrated by the examples of (12) and (13), showing that a permanent stative cannot, and non-permanent stative can ,be used in structures designated to convey the idea of a momentary inception of state[1], the other, illustrated by (14) and (15), showing that a permanent stative cannot, and a non-permanent stative can, be conjoined to a preceding totive VP, if the tenses of the conjoined verbs are the same.

4.4 The cursive verbs and/or verb phrases can be subdivided into generic and specific cursives on the basis of the following reactance:

(16E) While they travelled, she thought he was ideal for her.	(17E) *While they were travelling to Turkey, she thought he was ideal for her.
(16SC) Dok su putovali, mislila je da je on idealan za nju.	(17SC) *Dok su putovali u Tursku, mislila je da je on idealan za nju.

Thus, generic cursives — typically verbs and VP's denoting habiatual actions — can be used in an adverbial time clause setting the temporal frame for a co-extensive non-permanent stative, while specific cursives — verbs and VP's indicating single events of some duration — cannot be so used.

4.5 The totive aspectual category can be divided into two major subcategories, one consisting of totives which not only can, but must involve duration of some time, i.e. duration longer than a point of time, the other subcategory being the punctual aspect of verbs whose actions are conceived of as taking place at a (mathematical) point of time. Thus, durative totives can be modified by time adverbials denoting *periods* of time, while punctual totives cannot be so modified:

Durative Totive	Punctual Totive
(18E) He sat (for) about ten minutes.	(19E) *He fell down (for) about ten minutes.
(18SC) Posjeo je desetak minuta.	(19SC) *Pao je desetak minuta.

(20E) She ate it all up in ten minutes.	(21E) *She coughed in ten ten minutes.
(20SC) Pojela je sve za deset minuta.	(21SC) *Nakašljala se za deset minuta.

[1] This is also manifested in the incapacity of Serbo-Croatian permanent statives, as contrasted with the capacity of Serbo-Croatian non-permanent statives, to form what I have called the *inceptive* aktionsart indicating the beginning of a state or action, frequently formed with the prefix *za-*, e.g. *mrziti* — *zamrziti*, but *stajati* ('to cost') — **zastajati*, *mirisati* — *zamirisati*, but *sličiti* — **zasličiti*.

4.6 It is also possible to subdivide the durative totive category into two subcategories on the basis of the fact that we cannot reverse the adverbials of (18) and (20) and still have grammatical sentences. This is because the temporal contour of verbs like *eat up* and *pojesti* implies, in addition to duration, a terminating point, absent in verbs like *sit for some time* and *posjesti*. I have called the subaspect of the former group of verbs *terminative*, that of the latter group *extensive*.

5.0 Having thus outlined the scheme of aspectual categories that I find need to be posited in English grammar as a result of contrastive investigation in relation to Serbo-Croatian, I will now take up each category, or rather each pair of binary categories, to show how they can be used in formulating simpler and more general rules relating to some sections of English grammar, than has so far been possible.

5.1.0. First, let us see what use we can make of the most general aspectual dichotomy of non-totive versus totive in the interpretation of the meaning of English sentences with modal verbs. Before discussing the details of the co-occurrence of these aspectual categories with individual modal verbs, I should point out that the non-totive aspect in English is a more comprehensive category, which can be manifested by the component of durativeness contained in the meaning of the verb itself (as in *know*), by the progressive and the perfect occurring with any verb, and by a feature which I have marked (+ repetitive) and which can be signaled either by a frequency adverbial in the same sentence or by general context. In connection with the last feature, I should point out that I have not been able to establish 'iterative' as an independent aspectual category, but only as an aktionsart of cursive subaspect of non-totive.

5.1.1 A general effect of totive aspect co-occurring with verbs preceded by modal auxiliaries is to decrease the number of possible interpretations of the modal. This is partly due to the fact that totive verbs co-occurring with modals tend to have only future time reference, which automatically rules out some possible interpretations of individual modal verbs.

5.1.2 This effect is seen at work in the first modal that we shall look at, the modal *must*:

(22) He must drink.
(23) He must drink a glass of milk.

The aspect of the main verb in (22) is non-totive, in (23) it is totive. As a result of the aspectual difference, the modal in (22) may mean either 'obligation' or 'logical necessity', while the same modal in (23) can only mean 'obligation'.

5.1.3 Somewhat similar reactance to the two major aspects is found in the VP's combined with the negative form of *can:*

(24) She can't read Chinese writing.
(25) She can't read the whole book.

In addition to the meaning of 'ability' or 'permission' (which are more precisely called in the negative 'lack of ability or permission') shared by both sentences, sentence (24) with non-totive aspect may also have the meaning of 'logical necessity', which, when *can* is negated, is also labeled 'inadmissibility of supposition'. This last meaning is rendered in Serbo-Croatian as *NP mora da ne. .* and is easier to grasp if we expand (24) with something like "...or else she would have helped me read my Chinese letter".

5.1.4 We will now use *could* in a pair of sentences different with regard to the non-totive : : totive opposition in the VP:

(26) They could save 1,000 dinars a month.
(27) They could save her from bankrupcy.

While the conditional meaning of *could*, paraphrasable as *would be able to* and usable both as a 'pure' conditional and as the 'soft' version of *can*, is present in both (26) and (27), *could* in (26) can also be interpreted as the simple past tense of *can*, i.e. it can mean *were able to*, which the *could* of (27) cannot. If we want to put (27) in the past, we can make it only into contrary--to-fact past, formed by means of the structure *could + perfect infinitive*. This usually creates learning problems for Serbo-Croatian speaking, and presumably also Polish speaking, learners of English, because Serbo-Croatian and Polish lack correspondents of the English perfect infinitive, though the totive verb associated with *moći* and *moc* (can) also denotes only contrary-to--fact past. The simple pedagogical rule would now be:

> To translate the past tense of Serbo-Croatian *moći* and Polish *moc*, use *could + perfect infinitive* if the main verb is totive ,otherwise use present infinitive after *could* for factual past and perfect infinitive for contrary-to-fact past.

5.1.5 The only difference which the totiveness feature brings to VP's used with *may* and *might* is to limit the time reference of the 'probability' meaning of these modals to future time; compare the following sentences:

(28) He may know that.
(29) He may find out about that.

The same is true of *can* and *could* used with the meaning of 'probability'.

5.1.6 *Will* expressing the speaker's supposition about a present state of affairs is compatible only with non-totive verbs, as shown by the difference between the following two sentences:

(30) You will know my brother.
(31) You will meet my brother.

5.1.7 I will now present in tabular form those characteristics of English modals which are conditioned by the aspect — totive or non-totive — of the verb or verb phrase with which they associate.

Modal Auxiliary	Features of meaning of the associated VP	
	— shared by totive and non-totive VP's	— specific to non-totive
MUST	obligation	logical necessity
CAN'T	lack of ability or permission	inadmissibility of supposition
COULD	'would be able to'	'was/were able to'
WILL	futurity, volition, determination, etc.	supposition about a present situation
MAY-MIGHT CAN-COULD	permission and future possibility	present possibility

(Note: Only the shared meanings of *may-might* and *can-could* are considered. The 'ability' meaning of *can-could* is not sensitive to change of aspect.)

5.1.8 The pedagogical implications of the foregoing considerations about the meaning of English modal verbs in relation to the two basic aspects found in Slavic languages as (generally) morphologically distinct pairs should now be easily seen: Slavic learners of English can use a readily recognizable grammatical distinction in their native language for easier mastery of some fairly complex grammatical phenomena in the English language. Naturally, the pedagogues still need to work out the details of the methodological plan for mastering these phenomena.

6.0 Another area of English grammar which can be significantly improved upon and simplified by means of my scheme of aspectual categories is the use of tenses in English. These would include the *be* + *-ing* forms, which I treat as one possible overt manifestation of the more fundamental category of non-totive aspect. The same applies to perfect tenses. In fact, since the English progressive *I am writing it* means 'I am engaged in the process of writing it' and the perfect *I have written it* means 'It have the property of having written it', they are both so obviously non-totive that there is no need to argue this point.

6.1 Before discussing the details of a new approach to the use of tenses in English, I need to ask you to take another look at my aspect-based classification of English verbs in section 4.0 (which, incidentally, I believe to be valid in a great number of languages) to observe that it quite clearly embodies something in the nature of a *cline* (in Halliday's or the systemic sense of the term): the left-most category of permanent statives is made up of verbs such as *pertain, consist, belong,* which, regardless of grammatical context in which

they are used, imply considerable duration of what they stand for. In fact, their duration is unlimited in the sense that it is often co-extensive with the very existence of the subject of which they predicate something. As we go from one category to the next from left to right in the diagram on page 86, the intrinsic duration of whatever the verbs signify becomes more and more limited until we come to the rightmost category of punctual verbs, which are conceived of as taking place at a point of time, i.e. whose duration, psychologically speaking, is zero.

6.2 Let us first look at the *be* + *-ing* forms. Since the primary semantic function of the progressive is to denote relative duration of what is meant by the verb, there is an interesting relationship between the aspects and subaspects as I have posited them and the use of the English progressive: the more limited the intrinsic (or 'lexical') duration of a verb becomes — as happens when we move from left to right in our diagram — the more likely it becomes that the verb will combine with the progressive form for expression of relative duration. Only totive durative forms, being durative intrinsically, do not share this tendency. I will take up individual aspectual categories to examine implication of this general relationship for the use of the progressive with each time.

6.3 Permanent statives denote, as their name suggests, permanent states of limited duration and therefore never combine with the progressive[2]. The establishment of this aspectual category helps us make more precise the well-known but usually rather loosely formulated rule that 'certain' verbs, which denote various states, are not used with the progressive. We can say that of the two categories of statives, permanent statives are never used with the progressive, while non-permanent statives may be so used. Verbs which belong in the permanent stative category denote a *property* of the subject or its *relation* to another entity, e.g. *pertain, contain, belong, deserve, strike someone as, relate, surround* (the last two only with inanimate subjects). Predicates of permanent stative aspect also include most surface structure adjectives, such as *tall, deep, expensive, fat*[3], and the overwhelming majority of surface structure nouns. As to the use of the progressive form, the simple

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[2] In this sentence 'never' means 'never except in really outlandish styles of fantasy-writing or ultra-modern poetry'. In such styles almost anything goes, and the study of such writings should be undertaken, in my opinion, only after the grammar of more down-to-earth styles is fully understood. In any case, a contrastively based study is hardly a place to discuss points of 'outlandish' grammar.

[3] The permanent state label should not be taken literally. As most other grammatical labels, this one also fits only the 'typical' members of the category, its so-called 'prime analogues'. Thus *fat*, although not a 'permanent' state of individual living beings, is aspectually a permanent stative because, among other things, it cannot co-occur with the progressive form, as *funny* can, for example.

new rule would be:

Never use a progressive form with a permanent stative.

6.4 Non-permanent statives are typically made up of verbs indicating: (1) a *mental state: know, understand, believe, remember, realize, suppose;* (2) an *emotional state: like, love, admire, care, appreciate;* (3) *passive perception: smell, taste, feel.* Non-permanent statives, normally used, do not combine with the progressive. However, they are different from the permanent statives in that it is not impossible for them to co-occur with the progressive. This may happen if the speaker wants to suggest that the state or condition indicated by a verb is not completely static, that some development of the state or condition is implied. Usually, it is the *intensity* of the (emotional or mental) state that is considered. Someone who did not like England at first but began to like it later might, at one point of her or his stay there, say: *I am liking England more and more.* This seems to be more likely to happen with verbs indicating emotional states than with the other two subgroups of non-permanent statives. But generally speaking, it is possible to use a non-permanent stative in the progressive form whenever the idea of development is compatible with the meaning of the verb.

6.5 Generic cursive predicates typically denote habitual actions and their verbs are therefore most fittingly used with *simple* tenses. However, contrary to rules usually found in school grammars, these verbs can be, and indeed quite often are, used with the progressive. This happens especially when the verb is modified by a limiting time adverbial such as *at/during that time, these/those days*, etc., or if it serves as a time frame for a punctual verb:

(33) Those days she was watching TV every night.
(34) He was working in a motor factory at that time.
(35) Tom was playing in a jazz-band when he bought that trumpet.

Often, a generic cursive is used with the progressive without a limiting time adverbial in the same sentence. Then it serves to emphasize progression of the (habitual) action rather than to state the mere fact of its having taken place. The progressive is also used for stylistic reasons, mostly for vividness of presentation. However, since Slavic languages require the use of 'imperfective' verbs with habitual actions, learners with a Slavic language background who wrongly identify their imperfective aspect with the English progressive tend to overuse the progressive, extending it to almost all cases of habitual actions. They should be warned that, although it is sometimes possible to use the progressive in such cases, it is definitely not the usual form to be used with a majority of habitual action verbs.

6.6 As specific cursive is the aspect of a predicate phrase indicating longer-than-a-point single event, the progressive is the usual form with which this

aspect is realized:

(36) He was working in his garage that day.
(37) She was sewing all day yesterday.
(38) He was playing the trumpet when I came in.

However, the progressive is not the obligatory marker of each occurrence of specific cursive aspect. In sentences like (36) and (37) the simple tense would be just as acceptable; indeed the use of the progressive in such sentences may add an emotional note, such as irritation of the speaker at what is being said. This is another fact that is often misrepresented in school grammars, which usually make it appear as though the progressive is obligatory with verbs modified by an adverbial specifying that an entire period of time was occupied by the action of the verb. In fact, the use of such adverbials makes the progressive, as an extra signal of duration, somewhat redundant. The case of (38), however, is different: here the progressive is obligatory. This happens every time a single event serves as the time-frame for another point-like event, or, more generally, whenever one of the time points filled by a single event of some duration coincides with another point specified somehow in the sentence, the immediate discourse, or the general context. This provides us also with a very useful obligatory rule for the use of the *present* progressive: this form must be used for single events going on at the moment of utterance, since one of the time points occupied by the event must coincide with the moment of utterance.

6.7 The subdivision of totive aspect into durative and punctual has important consequences for the use of the English progressive. The durative subaspect may not be used with the progressive to denote an on-going action, whether past or present, whereas the punctual is frequently used with that function. In fact, only those totive durative VP's which I have called extensive (see section 4.6) can at all be used with the progressive; the meaning is, then, that of 'immediate future':

(39) She is stainyg here for two days.

That terminative verbs cannot be used with the progressive is shown by:

(40) *He is building his house in two weeks.

Punctual verbs, however, are freely and frequently used with the progressive:

(41) He is reaching the top.
(42) I am beginning to learn English.
(43) A rock is falling down.
(44) We are leaving tomorrow.
(45) He is knocking on the door.

These examples show that a variety of meanings can be conveyed by different punctual verbs used with the progressive. Since a punctual verb indicates an event conceived of as taking place at a point of time and since a point cannot 'last', the progressive form used with a punctual verb never really means duration of the event itself. Rather, it refers to one of the following:

1. Attendant circumstances prior to, and/or after, the point-event, including the event itself, as in (41) and (42).

2. The temporary event which leads to the point event indicated by the punctual verb, with both events being of the same basic nature (*to be falling down* and *to fall down* are of the same nature, but *to be reaching* the top could mean merely climbing towards) it as in (43),

3. A series of point-events in close temporal proximity, as in (45).

4. A future event. (This meaning is not restricted to punctuals).

Which meaning will be conveyed depends on: (a) the lexical meaning of the verb, and (b) the other elements in the VP and sometimes in the sentence or even a broader context. An isolated sentence may be ambiguous as to two or more of these meanings. Thus, for example:

(46) He is breaking the box now

is ambiguous as to meanings (1), (2), and possibly (3);

(47) She is hitting him

is ambiguous as to meanings (2) and (3), and every punctual verb with an element of voluntary action in it may, in the progressive form, also have blended in it the meaning of a 'planned future event', unless it is deliberately excluded by context.

7.0 A number of important points in the use of the English perfect tenses can be clarified and made more specific by means of the new system of aspectual categories proposed here, as I will try to show now.

7.1.0 Starting again from the left-most category of permanent statives, we discover that the perfect very rarely co-occurs with this category. The reason is not difficult to find: the perfect inevitably limits the time reference, in one way or another, of the verb with which it is used: since permanent statives typically denote *permanent* states, it is to be expected that they will be 'resistent' to a form whose basic function clashes with the notion of permanence. Thus, the sentence:

(48) This rock has weighed a hundred pounds

strikes us as illogical and for that reason also perhaps ungrammatical.

7.1.1 It seems that there are only two ways in which permanent statives can be used with the perfect. One is in a sentence with the illocutionary force

of *indirect statement*[4] such as:

(49) Until now this problem has pertained to grammar

taken as an abridgement to something like "You have been saying that this problem pertains to grammar" with the understatement "... and you will probably, as usual, change your mind now". The other possible use of permanent statives with the perfect is in combination with the past tense resulting from a past simple such as the following:

(50) The house measured 100 by 75 feet.

The understanding is that the house no longer exists, i.e. that the permanent stative *measure* is coextensive with the time of the existence of the subject to which it serves as predicate. In indirect speech (50) becomes:

(51) She said that the house *had measured* 100 by 75 feet.

Another use of perfect with this aspect is found in combination with the word *always*:

(52) He has always resembled his father,

especially if this is said in response to a claim like "He now seems to resemble his father more than his mother."

8.0 In addition to the foregoing reactances which permeate whole sections of English grammar, the new aspectual categories are manifested in a host of other individual reactances or selectional constraints which, though individual, are not less significant from the point of view of English grammar taken as a whole. It is to some of these individual reactances that I will now turn.

8.1. I will first demonstrate a rule of great pedagogical value which I find to be a very convincing example of the indispensability of setting up in English grammar the two aspects corresponding to the Slavic 'imperfective' and 'perfective'. Namely, no grammar of English has yet been able to account systematically for the fact that we can say:

(53) I wish you knew my brother

but not

(54) *I wish you met my brother,

[4] This is one of the illocutionary acts that I have added to Austin's list on page 98 of his book cited in the bibliography. The illocutionary force of "indirect statement" would attach to every sentence whose contents are claimed to be true by a person other than the speaker himself, but without explicit information about the claim (which is therefore different from closer-to-surface phenomena of the traditional distinction between direct and indirect speech).

which idea must be expressed by:

(5) I wish you would meet my brother.[5]

Now, the simple rule is:

After *wish* expressing present desire use past tense of the verb in the complement clause if the verb is non-totive and *would* + *verb stem* if it is totive.

8.2.0 A set of reactances of the non-totive/totive dichotomy is related to what structuralists called *concatinative* verbs, i.e. verbs which, though not modal, are followed by the infinitive (with or without *to*) of another verb which completes their meaning. They have traditionally been included in the class of verbs of 'incomplete predication'.

8.2.1 First, let us look at the verbs *begin* and *stop* (the latter in the sense of *cease*). It is a long established fact of Slavic grammar that Slavic verbs corresponding to these two verbs cannot be concatinated with 'perfective' verbs. This is true of English too, as can be seen from the following positive/ /negative reacatnce:

(56) He began to live/stopped living in China.

(57) *He began to stay/stopped staying in China for 3 weeks.

In the latter example I have deliberately chosen what I have called a totive durative verb phrase (cf. 4.5) which, unlike a totive punctual, obligatorily involves duration of a period of time that we might logically suppose to have a beginning and an end. However, here, as in so many other cases, logic and grammar do not go hand in hand: the temporal contour to totives is perfectly 'solid' so that no section of it — including its initial and final points — can be used for any grammatical reference.

8.2.2 The following three reactances with concatinatives involve expressions frequently used in spoken English; the ensuing rules are therefore important even on a fairly elementary level of English grammar.

(58) He seems to know the answer.
(59) *He seems to learn the answer.
(60) He has yet to learn the answer.
(61) *He has yet to know the answer.

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[5] It is a curious fact that, although many grammarians have established aspectual categories corresponding to totive and non-totive, they have not shown what part these categories play in the structure of English sentences. Curme, for instance, divides English verbs on the basis of aspect into four categories (Curme 1931:373), two of which correspond to the traditional aspectual dichotomy between imperfective and perfective. In another section of his *Syntax* (1931:402—3) he talks about the subjunctive used after *wish*, but does not relate it to his aspects. With him, as with most other scholarly traditionalists, aspects seem to be purely logical categories with little direct relevance to syntatic well-formedness.

(62) She would/might like to see the old church.
(63) *She likes to see the old church.

These examples show that *seem* will be linked only to a verb of non-totive aspect and *have yet to* to one of totive aspect, while *like* will take a totive verb as its complement only if preceded by a modal.

9.0 What are the deeper grammatical roots of these and similar constraints is not quite clear to me at this moment. Certain constraints of an aspectual nature on verb phrase conjoining (cf. Ridjanović 1976: 60—62) seem to be related to the constraints involving concatinatives, although I have not been able to set up a more general rule that would unite the two types of constraints. These matters need to be clarified by further research. Besides, the aspectual categories that I have posited are relatable also to the category of transitivity in verbs, the number and the mass/count dichotomies in nouns, and to some other grammatical phenomena that, at first blush, seem quite unlikely to have anything to do with aspect. They open up new areas of research, which, if undertaken on an abmitious scale, would, in may opinion, bring about major advances in the description of English.

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COMPLEMENTATION IN MOD GREEK AND ENGLISH

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1. *The complementizers*

Modern Greek complement clauses no doubt deserve a whole thesis. The present article will therefore be rather sketchy since it constitutes only a part of a whole thesis. We shall be dealing with the following complementizers: (a) *na*, which is also a Mood marker; (b) *oti* (pos) which corresponds to the English complementizer 'that'; (c) *pu*, 'that' used mainly with Emotive Factive predicates (see sections on "Factives" and particularly on "Assertives" where all predicates are classified according to their syntactic and semantic properties).

1.1 *Some Facts*

Modern Greek has lost its infinitive construction, which English still retains; it has never had gerundive forms like the English -ing; so, we shall mainly deal with what Chomsky (1973) has called 'tensed sentences'.[1] Since person is morphologically copied onto the endings of the verb, it is hardly plausible to talk of Equi-NP deletion, that is, there is no reason to postulate an NP subject since NP subjects are optional, as I have shown in Kakouriotis (1978). Thus the English sentence: 'I want to come' is translated into Modern Greek as *θelo na erθo*, where both the matrix and the complement verb show with their identical endings -o that they both have as their subject the 1st person sign personal pronoun *eyo* 'I'.

[1] The only exception being the non-finite adverbial participle when used as a complement of some "emotive" predicates. In such cases the complement-participle is normally a verb of perception, knowing, learning:

xarika vlepondas se
I was glad seeing you
I was glad to see you

On the other hand, in in the scae of a complement clause with a non-split subject, such as the English

(1) a I want you to come

its Greek equivalent will be

(1) b θelo na erθis

where the difference of verb endings between matrix and complement verbs shows that we have different subjects: 1st person in the matrix and 2nd (here singular) in the complement. *na* is the Modern Greek complementizer corresponding to the English 'to'; it is here followed by what traditional grammars call the Subjective Mood. Whether there is a Subjunctive in Modern Greek is, however, debatable. As A. Martinet has pointed out "We could not speak of a subjunctive in a language which does not possess subjunctive forms that are distinct from those of the indicative such as 'je sache' and 'je sais'". (A. Martinet (1960:45), English translation). Modern Greek does not seem to to have such a distinction and the endings *-ω, -εις, -ει, -ουμε, -ετε, -ουν*, can occur in either Mood. What distinguishes Indicative from Subjunctive are are the Mood Marlers (MM) *na, θa*, and *as* which cliticize to the verb that follows.

Actually, as far as *na* is concerned, it can be used with either Subjunctive Aorist or Indicative Aorist or Subjunctive Perfect or Perfect Indicative. Notice that the Aorist Indicative and the Persent Perfect Subjunctive are at least in one sense synonymous and can be used indiscriminately:

(2) elpizo na eftase soos ke avlavis.
(Ind)
I hope MM he-reached safe and sound
I hope that the arrived safe and sound.

(3) elpizo na exi ftasi soos ke avlavis.
(Subj.)
I-hope MM has reached safe and sound.

But since the Perfect subjective and the na +Aorist Indicative are used interchangeably and since na +Subjunctive can have the same function as na+ Indicative, is it really necessary to postulate a Subjunctive Mood? However, I should think that for our description it is convenient to postulate a periphrastic subjunctive made up of MM (Mood Marker)+Indicative, which might enable us to cover also cases like *elpizo na eftase*.

1.2 *The for-phrase in Modern Greek*

Many linguists have reacted against the spuriousness of the for-to complementation and have suggested that there has never been a for-to complementizer at all. Whether this is right or wrong is a matter that does not concern

our analysis here, as we are dealing with a language that has no infinitive constructions.[3] However, a for-phrase does appear in Modern Greek where the matrix verb is an impersonal expression. Kimball (1971) has discussed the frequent ambiguity of for-phrases as between „datives on adjectives" and as part of an embedded complement. Consider the following sentence:

(4a) It is good for the economy for everyone to have a job.

In the Greek gloss of this sentence, the 'for' of the Dative on adjective must stay where it is, but the 'for' of the embedded complement is unnecessary, as instead of a 'for to' clause we have a subordinate "tensed" clause.

(4) ine kalo ja tin ikonomia na exi o kanenas mja dulja.

It-is good for the economy MM has article everybody a job

In English there is an ambiquity in the sentence:

(5) a It is good for John to stay here.

as to whether it is good for John only:

(5) b It is good for John (to stay here]

or to whether it is good in some absolute, generic sense:

(5) c It is good [for John to stay here]

In Modern Greek, on the other hand, only the first reading is possible:

(5) d ine kalo ja to jani na mini eδo.

It-is good for Article John MM stay Aor. Subj. here.

The generic sense requires a construction made up of copula+Adjective with a *na* complement in which *Janis* is the nominative case subject:

(5) e ine kalo na mini o janis eδo.

It is good MM Article John here

1.3 *The Gerund and Modern Greek*

From the semantic point of view there is a relation between factivity and gerundives in English. It was Jespersen (1924) who first noticed that the infinitive seems to be more appropriate than the gerund to denote the imaginative (unreal). This was taken up by D. Bolinger (1967) who observed

[3] In fact, as has been pointed out by Chomsky, the 'for' 'to' constructions derive from Subjunctives, i.e. a) from b):

i it is essential for him to do that
ii it is essential that he do that

that there is a properly semantic constrast between nominalizations carried by -ing and those carried by the infinitive. This contrast is, according to him, one between two aspects: reification vs hypothesis or potentiality. At about the same time the Kiparskys wrote what has now become one of the classics in the literature of linguistics: their article entitled 'Fact'. There they proposed that infinitival nominalizations derive from the sentential objects of non-factive predicates, and that gerundive nominalizations derive from the sentential objects of factive predicates: in other words, that the surface contrast between infinitivals and gerundives can be explained in terms of factivity.

In Modern Greek the 'Subjunctive' Mood seems to have taken over all the functions of the English and classical Greek infinitival construction. Like the infinitive, it can denote the unreal or the hypothetical. Like the infinitive in English, the Modern Greek Subjunctive does not normally express a true proposition. Compare:

(6) lizmonisa na ton sinandiso (Aorist-Subj)
I forgot MM him I meet
with:
I forgot to meet him

(7) lizmonisa pos (oti) ton sinandisa (Aorist-Ind)
I forgot that him I met
I forgot that I had met him. I forgot meeting him.

Only the second sentence allows the noun *to γεγονος* the fact, with a sentential complement consisting of the 'oti' clause, to replace the simple oti-clause.

(8)a *lizmonisa to γεγονος na ton sinandiso
I forgot the fact to meet him

(8)b Lizmonisa to γεγονος oti ton sinandisa
I forgot the fact that I met him.

The lack of gerunds in Modern Greek is compensated for by the use of "articled" sentences: *to oti ine arostos* 'the that he is sick', or by the use of a category of nouns expressing action, activity and (possibly) state, which are normally formed from the stem of the Perfective +an *-i(s)* noun ending and which correspond to the nouns that have -tion, -al, -ment and -ing endings in English:

Verb	'attempt', 'operate'	Nominal
epiziro (epixiris)-	'attempt', 'operate'	*epixirisi(s)* 'eopration'
lino (lis-)	'solve', 'loose'	*lisi(s)* 'solution'
paralipo	'omit'	*paralipsi(s)* 'omission'

δieθeto (dieθetis-)	'arrange'	*διεθετισι(s)* 'arrangement'
oδiγo (oδiγis-)	'drive', 'lead'	*oδiδisi(s)* 'driving'

Notice that dhemotiki has created another class by extending the -si) -si(s) ending into -simo.[2] This class comes nearer to the action-activity English gerund. They sometimes differ in meaning from the the -si(s) noun. Thus from the verb *strono*, 'lay', we derive *strois*, 'layer' and *strosimo*, 'the laying (of bed or table)'.

From *lino*, 'solve', 'loose', we get *lisis*, 'solution' and *lisimo*, solution/but also 'loosening', 'undoing'.

Finally, there is a class of -ma ending nouns that can do the work that the gerund does in English; the -ma ending is added to the Perfective stem (the *s* is sometimes deleted).

Imperfective		Perfective stem	Nominal
perpato	'walk' —	perpatis-,	→*perpatima*, 'walking'
kapnizo,	'smoke' —	kapnis-,	→*kapnisma*, 'smoking'
Kalo,	'call' —	kales-,	→*kalesma*, 'calling'','call
kerno,	'treat' —	keras-,	→*kerasma*, 'treating'
sfragizo,	'fill' (a tooth) —	sfragis-,	→*sfragisma*, 'filling'
γemizo,	'fill' —	γemis-,	→*γemisma*, 'filling'
perno,	'pass' —	peras-,	→*perasma*, 'passing'
δjavazo,	'read' —	δjavas-,	→*δjavasma*, 'reading'
imerono,	'tame' —	imeros-,	→*imeroma*, 'taming'

Let us now see how those potential gerundives can cope with some constructions analogous to the English -ing forms:

Generic 'activity' constructions

(9) to perpatima ine mia kali askisis
Ø Walking is a good exerciese

(10) to imeroma lendarjon (Gen) ine epikinδino
Ø Taming lions is dangerous

There are two things in which the two (Greek and English) constructions

[2] Some of these nominals derive straight from the Perfective without any intermediate -si(s) type:

		Nominal -si(s)	*Nominal -simo*
pefto (pes	'fall' (v)	**pesis*	*pesimo* 'fall' (n)
sfazo (sfaks)	'slay'	**sfaksis*	*sfáksimo* 'slaying'

differ: the Greek generic sentence needs a definite article (obligatorily) and also, as far as the second example is concerned, in Modern Greek we have an objective genitive, whereas in English a generic activity gerund takes an object in the Accusative. Both the Greek and the English can be paraphrased: the Greek into subjunctives; the English into for-to emotive infinitival constructions with deleted indefinite subjects. (Stockwell et al. 1972):

(11) ine mja kali askisis na perpatai kanis
It is a good exercise MM Subj. walk Indef. pronoun
It's a good exercise (for one) to walk.

(12) ine epikinδino na imeroni kanis leondarja
It is dangerous MM Subj. tame Indef. pronoun lions
It's dangerous (for one) to tame lions.

The Greek indefinite pronoun *kanis* is not deletable; there is, however, the alternative of using a generic 2nd pers. sing. which is copied onto the verb ending.

(13) ine mja kali askisis na perpatas
It is a good exercise MM Subj. you walk

(14) ine epikinδino na imeronis leondarja
It is dangerous MM Subj. you tame lions

More problematic is the rendering of Poss-ing into Modern Greek. In fact, there are two ways to render it: either a nominal (*-si, -isimo, -ma* ending) or, with a complement modified by the neuter gender definite article *to*:

(15)a to δiavasma tu jani
the reading of John

(15)b to oti o janis δiavazi
The that John reads

If the verb is transitive, the construction will be: Nominal+Objective Genitive+PP (Agent)

to δivaasma tu vivliu apo ton jani
the reading of the book from John

1.4. *On the Syntax of Complement Constructions*

There are many reasons which can lead us to adopt an NP analysis for Modern Greek Complements:

(a) They can enter into most of the functional relations of ordinary NPs like their English counterparts:

Subject: (to) na kanis peripato to vrači ine efxaristo
Article MM do walk the evening is pleasant
Going for a walk in the evening is pleasant

Object: nomizo pos exi erθi
I think that he has come

Obj. Prep: vasizete sto oti θa ton voiθiso
He relies on Article that I will help him

Subj. Compl: to xombi tu ine na mazevi petaluθes
the hobby of him is subj. M. collect butterflies
His hobby is collecting butterflies

Apposition: moni tu apasxolisi, to na mazevi ta enikia apo tis polikatikies pu exi, tu troi olo tu ton kero.
His only occupation, collecting the rents from the blocks of flats that he owns, takes up all of his time.

(b) They pronominalize and cliticize like NPs
to pistevo apolita oti o petros ine timios.
It I believe absolutely that Peter is honest.
I absolutely believe that Peter is honest.

(c) Interestingly, most complement clauses can take a *Definite Article*, which, in cases of verbs followed by prepositions, is obligatory. Classical Greek made an extensive use of Articled Infinitives, some of which were taken over by "kaθarevusa", the puristic Modern Greek language. Officialese has still a good stock of them, especially used as complements of the verb *apayorevete*, 'it is forbidden'.

(16)a apayorevete to fonaskin endos tis eθusis
It is forbidden Art. to speak loudly in the room
Speaking loudly in the room is forbidden

(16)b apayorevete to sinerxeθe paranomos
It is forbidden Art to assemble illegally
(to asseble) Assembling illegally is forbidden

In colloquial Greek there are no longer any Articled infinitives. Instead, you can have either a *si(s), isimo* or *ma* nominal (see pages 102 - 103) or a *na* + subjunctive construction with the optional use of the Definite Article. Note that the complementizers *pu* (that) and *pos* (that) cannot take an article, though *oti* and *na* can:

(17)a (to) oti ine vlakas, oli to kserume
Art. that he is fool all it we know
We all know that he is a fool

(18)b? to pos ine vlakas oli to kserume[4]
to na exis aftokinito exi meɣali simasia simera
Art. MM Subj. have can has great importance nowadays
It is very important to have a car nowadays

The fact that to is a singular neuter article may suggest that it is the remnant of the phrase *to ɣeɣonos* 'the fact', after a *ɣeɣonos* deletion has taken place; however, *to* is used with *na* complementizers as well, as witnessed from the last example, which are, as a rule non-factive complementizers.

Note that the use of the article to becomes obligatory if the complement clause starts with a preposition:

(19) ipoloɣizi Prep. Art. oti θa exi tin plire ipostiriksi mas
He counts on the that will have the full support of us
He counts on the fact that he will have our full support

(20) *ipoloɣizi se oti θa exi tin pliri ipostiriksi mas

Interestingly, the use of the Article can be extended to cover Wh-complements:

(21)a (to) ti θa kano, δen afora esena
the what I will do, not concerns you
What I'll do does not concern you

(21)b (to) pjos espase to vazo, kanis zen to kseri
Art. who broke the vase
nobody not it he knows
Nobody knows who broke the vase

(21)c (to) pu pa pame, ine alo rema
Art. where we shall go is another
topic Where we shall go is another matter

(21)d (to) an pa erri, eksartate apo ton kero
Art. if he will come depends
from the weather
Whether he will come (or not), depends on the
weather

(21)e (to) pote pa pandrefto, ine a nosto ke se mena ton izjo
Art. when I will get married is unknown and to me the same
When I will get married I don't even know myself.

---

[4] As far as *pos* is concerned it may be a matter of dialect but *pu* never does take an article:

i lipame pu ine toso vlakas
I regret that he is so stupid
ii *to pu ine vlakas, lipame

Note that in all the above sentences the complement has been topicalized. The Article can also be used with untopicalized complement, though less frequently.

(22) kanis zen kseri (to) pjos espase to vazo
cliticization of the complement clause:
Also, topicalization triggers
(23)a oli (to) kserume (to) oti ine vlakas
All it we know Art. that he is stupid.

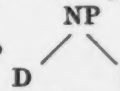
Here both the clitic and the article are optional. But if the complement clause is preposed, the sentence becomes ungrammatical without the clitic, though the use the Article still remains optional:

(23)b (to) oti ine vlakas, oli *to* kserume
(23)c *(to) oti ine vlakas, oli kserume
(23)d (to) na pelis mja plusia nifi, to katalaveno
Art. MM Subj. you want
a rich bride it I understand
I understand you wish to get yourself
a rich bride
(23)e *(to) na pelis mja plusia nifi, katalaveno

Finally, in connection with the two other test proofs, namely, passivization and pseudo-cleft, I have to say the following: the Passive Voice is very idiosyncratic in Modern Greek and much less used, even in written Greek, than in English. There is a considerable number of verbs which though transitive do not normally passivize.

On the other hand, pseudo-cleft sentences can obtain. But though there exists a free relative corresponding to the English 'what', Mod Greek uses a periphrasis made up of a demonstrative *ekinos* 'that' or *aftos* 'this', plus a relative in pseudoclefts:

ekino pu δen kseri kanis ine (to) pjos espase to vazo
that which not he knows nobody is Art. who broke the vase
What nobody knows is who broke the vase.

Thus, the syntactic analysis of complement clauses, which applies both to English and to Mod Greek should be modified into  to account for the complements which take the neuter gender definite article *to* (cf. the English: 'killing rabbits' which derives diachronically from *'the* killing rabbits').

2. *On the Semantics of Complement Clauses*

0. *Introduction*

In a previous article (Kakouriotis 1977) I had dealt with some Mod Greek predicates and had observed that when they are heavilly stressed, they can change from Nonfactive into Factive predicates. In the present article I have tried to divide Mod Greek into various semantic classes, following Hooper (1975).

There are not any striking differences between English and Mod Greek as far as the semantics of complement clauses is concerned. However, predicates like *fenete* 'it seems' present problems for an analysis which divides predicates into Factives and Nonfactives since its meaning changes from 'it seems' (Nonfactive) to 'it is clear', 'it is self-evident' (Factive).[5]

As far as the syntax of the predicate clauses is concerned, we notice that whereas all the glosses of the Mod Greek predicates take a full that-clause, which is the equivalent of the Mod Greek *oti*-clause, in Greek the group of Nonassertive Nonfactives (see next page) do not take an *oti-* (Indicative) clause but a *na* — (Subjunctive) clause.

TABLE I

SEMANTIC CLASSES OF PREDICATES

NONFACTIVE

Assertive

Weak Assertives		Strong Assertives			
			(a)		(b)
θaro	'guess'	*anaynorizo*	'acknowledge'	*ime veveos*	'be certain'
nomizo	'think'	*anafero*	'mention'	*ime siyuros*	'be positive'
fandazome	'imagine'	*δiatinome*	'maintain'	*ine fanero*	'be obvious'
fenome	'seem'	*δilono*	'state'	*ipoloyizo*	'calculate'
ipoθeto	'suppose'	*epimeno*	'insist'	*ipoptevome*	'suspect'
pistevo	'believe'	*epiveveono*	'assure'	*fovame*	'be afraid'
		eksiyo	'explain'	*simfono*	'agree'

[5] Thus in i and ii below the predicate *fenete* is either Factive (i) or Nonfactive (ii) depending on whether it is heavily stressed or not.:

i *fenete* oti ine kurasmenos
It is self-evident that he is tired
ii fenete oti ine *kurasmenos*
It seems that he is tired

Not surprisingly, i can alternatively take the factive complementizer *pu* whereas ii can't, as witness:

i' *fenete* pu ine kurasmenos
ii' *fenete pu ine *kurasmenos*

isxirizome	'claim' 'maintain'	*simbereno*	'conclude'
leo	'say, tell'		
paraδexome	'admit', 'acknowledge'		
paratiro	'remark'		
proleyo	'predict'		
tonizo	'emphasize'		
δe leo[6]	'I don't', 'deny'		
elpizo	'hope'		
ipoθeto	'hypothesize'		

Nonassertives

enδexete	'be possible'
ine piθano	'be probable'
ine δianoito	'be conceivable
ine δinato	'be possible'

Table I cont.

Negative Nonassertives

ine aδianoito	'be inconceivable
ine aδinato	'be impossible'
ine apiθano	'be improabble'
amfivalo[7]	'doubt'
arnume[8]	'deny'

TABLE II

SEMANTIC CLASSES OF PREDICATES

FACTIVE

Assertive (Semifactives)		Nonassertives (true factives)	
anakalipto	'discover'	*arki*	'it suffices'
apokalipto	'reveal'	*exi simasia*	'be significant'

[6] The negative of *leo* 'say', *δe leo* when used parenthetically, it does not mean 'I don't say' but 'I do not deny'. Compare:

i *δe* leo oti ise kalos
I don't say that you are good
ii *δe* leo, ise kalos
I don't deny, you are good
you are good, I don't deny it

[7] *amfivalo* belongs semantically tot his list but it presents the problem that instead of *na* complementizer it normally takes the conjunction *an* 'if' though sentences with *na* can also be heard i.e.

amfivalo na exi erθi akoma
'I doubt it that he has come yet'

[8] *arnume* 'deny' behaves semantically like an assertive verb though semantically is clearly Nonassertive. Note that both amfivalo and arnume are strong assertives when negated in which case they both the take complementizer *oti*.

ðiapistono	'realize'	*ine perierγo*	'be odd'
γnorizo	'know'	*kseχnao*	'forget'
exo ipopsi mu	'know'	*lipame*	'be sorry'
θimame	'remember'	*metrai*	'it counts'
katalaveno	'realize'	*paraksenevome*	'be surprised'
ksero	'know'	*pezi rolo*	'be significant', 'it counts'
maθeno	'learn'		
paratiro	'notice' 'observe'	*stenoχorjeme*	'be sorry', 'bother'
pliroforume	'find out' 'be informed'	*pirazi*	'it matters'
vlepo	'see', 'notice'		

2. *Semantic Classification of Predicates*

2.1 *Assertives vs. Nonassertives*

The semantic distinction of predicates into factives and non-factives is a very useful one but it cannot account for all the facts that concern complement clauses in Mod. Greek.

We have already seen problems presented by verbs like *fenete*, in connection with the presupposition of their complements; for this reason I have adopted another way of classifying the complement clauses, based on an analysis by Joan Hooper (1975).

This is a classification of verbs based on the ability or inability of the predicate to undergo certain syntactic operations. But is is defensible on semantic grounds and has associated with it a semantic explanation for the syntactic differences among the classes of predicates listed above.

The general conclusion that we shall draw from this section is that syntactic phenomena have semantic explanations, as Hooper has observed. But we shall also notice on the other hand, that semantic phenomena may have *pragmatic* explanations. This supports my own general thesis that there is an interdependence between syntax, semantics and pragmatics in terms of which one can explain what we call language function.

The predicates above have been divided into four main classes whose complements consist of the complementizer *oti* or *na* plus a full S. All classes belonging to the Assertives basically take the complementizer *oti* unless there are good "semantic" reasons for their not doing so. Non-factives are the only class which takes only *na* complementizers with the exception *of arnume* which in Mod. Greek means, (a) 'refuse' in which case they must take a *na* complement, (b) 'deny' in which case they must take an *oti* complement. Finally, Non-assertives basically take the complementizer *pu*[9] unless again there are semantic reasons which force them to take *na*. Another exception

[9] Sometimes *pu* is replaced by *oti* in this class but in such case it is awlays preceded by the definite article *to*.

here is *ksexno* 'forget' which can have any of the three (*oti*, *na*, *pu*) complementizers.

The assertive predicates form a natural semantic class and share a common feature; they are affirmative in nature: the speaker or subject of the sentence has an affirmative opinion regarding the truth value of the complement proposition. The strong assertives (list *a*) describe a verbal act with regard to the complement proposition and this act is affirmatory, as opposed to the Non-assertives.

The strong assertives of list *b* and the weak assertives describe a mental act, process or attitude regarding the truth of the complement proposition. The opinion that the speaker or subject expresses with the second class of strong assertives and the weak assertives is also positive: a negative opinion renders the predicate Non-assertive.

The Non-negative Non-assertive (*ine piθano, ine enδexomeno*) express such weak affirmation regarding the truth value of the complement proposition that they fall short of being assertive (Hooper 1975: 95).

The most important characteristic of the Assertive predicates is that they allow complement preposing unlike the Non-assertives which do not. This means that Assertive predicates can be used parenthetically and occupy either rear or middle or front position in the sentence separated from their complement by comma(s).

(1)a *θimame*, i meri itan i omorfoteri kopela sto skolio
I remember, Mary was the prettiest girl in school
b i meri, *θimame*, itan i omorfoteri kopela sto skolio
c i meri itan, *θimame*, i omorfoteri kopela sto skolio
d i meri itan i omorfoteri kopela sto skolio, *θimame*

(2)a' **ksexno*, i meri itan i omorfoteri kopela sto skolio
I forget Mary was the prettiest girl in school
b' *i meri, *ksexno*, itan i omorfoteri kopela sto skolio
c' *i meri itan, *ksexno*, i omorfoteri kopela sto skolio
d' *i meri itan i omorfoteri kopela sto skolio, *ksexno*

(3)a *nomizo*, o janis θa erθi mazi mas
I think John will come with us
b o janis, *nomizo*, θa erθi mazi mas
c o janis θa erθi, *nomizo*, mazi mas
d o janis θa erθi mazi mas, *nomizo*

(4)a' **arnume* o janis irθe mazi mas (cf. arnume *oti* o janis irθe mazi mas)
I *deny* John came with us
b' *o janis, *arnume*, irθe mazi mas
c' *o janis irθe, *arnume*, mazi mas
d' *o janis irθe mazi mas, *arnume*

The difference between parenthetical and non-parenthetical main clauses are both syntactic and semantic. In the first place, parenthetical predicates are normally not followed by complementizers. Both *θimame* and *nomizo* in their non-parenthetical reading require the complementizer *oti:*

(5)a'' θimame oti i meri itan i omorfoteri sto skolio
I remember that Mary was the prettiest in school
a''' nomizo oti o janis θa erθi mari mas
I think that John will come with us.

The semantic difference between parenthetical and non-parenthetical clauses is that in the former the complement clause constitutes the main assertion whereas the main clause is *semantically subordinated* that is, in the case of parenthesis, the embeded subordinate clause is given more importance while the parenthetical clause undergoes a kind of semantic reduction.

The assertive quality of the complement proposition can be proved by the fact that complement preposing is forbidden when the main predicate is negated. Compare (6a) which is complement preposed with (6b) which is not:

(6)a *i meri itan i omorftoteri kopela sto skolio, δen isxirizete
Many was the prettiest girl in school, she doesn't claim
(cf. i meri itan i omorfoteri kopela sto skolio, isxirizete)
b i meri δen isxirizete oti itan i omorfoteri kopela sto skolio
Mary doesn't claim that she was the prettiest girl in school

In the case of parenthetical predicate the scope of negation is limited to the assertive proposition that is, we can negate the preposed complement clause but we cannot negate the main clause which has been semantically reduced.

Let us now consider the non-parenthetical (6)b. There, the negative element can negate words that belong either to the main or the complement proposition (the negated element in each sentence is underlined).

(7)a i *méri* δen isxirizete oti itan i omorfoteri kopela sto skolio, i *eléni* to isxirizete afto.
Máry doesn't claim that she was the prettiest girl in class, Hélen does (claims that)
b i meri δen *isxirízete* oti itan i omorfoteri kopela sto skolio; apenandias, to *arníte.*
Mary doesn't *claím* that she was the prettiest girl in class; on the contrary, she *denies* that.
c i meri δen isxirizete oti *ítan* i omorfóteri kopela sto skolio apenandias isxirizete oti ine *tóra*
on the contrary she claims that she is *nów.*

d i meri δen isxirizete oti itan i *omorfóteri* kopela sto skolio ala oti itan i *eksipnóteri*
but that she was the *cléverest*

e i meri δen isxirizete oti itan i omorfoteri kopela *sto skolío* ala se oli tin perioxi tis notioanatolikis evropis.
but in the whole area of south-eastern Europe.

(7)a and b negate elements belonging to the main proposition; the rest negate elements of the complement proposition.

This shows then, that in non-parenthetical assertives both main and complement propositions are assertions since both are affected by negation.

The other diagnostic test (question) can again, show that both main and complement proposition elements can be affected. Thus, in an interrogative sentence like (8) below any of the underlined elements is capable of being questioned provided, of course, that the main clause is not parenthetical.

(8) *aftos ipe* oti 9a *pame* ston *kinimatoγrafo?*
Did he say that we were going to the cinema?

On the contrary, a parenthetical reading with the complement clause preposed, does not affect the main clause assertion at all;

(9) 9a pame ston kinimatoγrafo, ipe aftos?

in (9) only the elements of the preposed complement are affected by question. Heavy stress can fall on any of the underlined elements in (8); but in (9), neither of the parenthetical elements (*ipe, aftos*) can be stressed.

On the other hand, answers can be obtained out of *any* underlined element in (8); in (9) you cannot have answers through questioning the parenthetical clause elements. Compare answers given to (8) with those given to (9):

(8)a *aftós* ipe oti 9a pame ston kinimatoγrafo?
Did *he* say we were going to the cinema?
Answer: ne, *aftós* (yes, *hé*)
(9)a *9a pame ston kinimatoγrafo, ipe *aftós?*
Answer: ne, *aftós*
(8)b aftos *ípe* oti 9a pame ston kinimatoγrafo?
Answer: ne, *ípe* (yes, he *said*)
(9)b *9a pame ston kinimatoγrafo, *ípe* aftos?
Answer: *ne, *ípe*

Sentences like: *i meri isxirizeto oti ine i omorfoteri kopela* and *aftos ipe oti 9a pame ston kinimatoγrafo* contain two claims to truth listed as follows:
i aftos ipe X;
ii 9a pame ston kinimatoγrafo.

Syntactically *i* is the main proposition; semantically however either *i* or *ii* can be the main proposition depending on whether the sentence is used parenthetically or not.

But clearly this is a case where pragmatics comes in. Contextual considerations determine whether the main or the subordinate clause constitutes the main proposition. Consider the sentences below:

Speaker A: pjos ipe oti θa pame ston kinimatoγrafo?
Who said that we are going to the cinema?

Speaker B (1) *θa pame ston kinimatoγrafo, ipe *aftós*
We shall go to the cinema, *hé* said.

(2) *aftós* ipe oti θa pame ston kinimatoγrafo.
Hé said that we shall go to the cinema.

An answer like (1) constitutes what we usually call error in language performance. But it certainly has to do with pragmatics and what we describe as the *thematic structure* of the sentence.

What determines here which is the main proposition (semantically) is the *focus* of the sentence. It is *always* the case that parenthetical clauses, that is, clauses which though syntactically main clauses are semantically subordinated because it contains an element (*aftos*) about which Speaker A requires information. It is by no means insignificant that both assertion and focus are affected by negation and questioning; this is so because the later is normally contained in the former: whatever is deliberately prominent by the speaker, by heavy stress, is bound to be interpreted as of especial significance by its hearer and hence the focus of information.

In fact, when we said that either the main or the subordinate clause can be semantically more important than the other in the case of non-parenthetical clauses, we meant that in that case the focus can be contained in either clause thereby strengthening it as assertation and rendering it semantically the main proposition regardless of whether it was syntactically the main clause or not.

Before I go on, I will cite two cases of assertive predicates which, in their parenthetical status, have been reduced almost to meaninglessness.

The Mod Greek verb *θaro* 'guess' seems to be so weakly asserted that it can never be negated itself; sentence (10)b is considered by most speakers of Mod Greek to be unacceptable:

(10)a θaro (oti) θa vreksi.
I guess that it will rain.

b *δen θaro oti θa vreksi.
not I guess that it will rain.

It seems that the verb has undergone a diachronic reduction and now it is used only as a parenthetical predicate; thus, it is because (10) is weakly asserted, that it cannot be negated.

The second case of semantic reduction, very characteristic in both Mod Greek and English, are the second person Sg. of *kseris* 'you know' and *vlepis* 'you see'. Compare (11) with (12) and (13) with (14):

(11) vlepis oti ime arostos.
you see that I am sick.

(12) ime arostos, vlepis.
I am sick, you see.

(13) kseris oti ime arostos.
you know that I am sick.

(14) ime arostos, kseris.
I am sick, you know.

We can say that those predicates in their parenthetical use, have undergone such semantic reduction that they have come to be meaningless. Speakers constantly use them without ever referring to their addressees knowledge, sight, awareness or anything.

We can now use this semantic reduction idea of parenthetical assertions to account for the so-called *Extraposition from Object*. The case is, then, that assertive verbs used parenthetically do not undergo this kind of extraposition as witness:

(15)a to *pistévo* oti ise of γois tis sinikias.
I believe it that you are the lady-killer of the neighbourhood.
b (*to) pistevo, ise o γois tis sinikias.
c ise, (*to) pistevo, a γois tis sinikias.
d ise o γois tis sinikias, (*to) pistevo.

Sentences (15)b, c and d are grammatical without the clitic object *to* and ungrammatical with it. In all three cases of them the main proposition is used parenthetically.

Furthermore what we have classified as weak assertives resist Extraposition from Object even on their non-parenthetical readings.

to pistevo	(it I believe)	
? to ipoθeto[10]	(it I suppose)	oti θa erθi avrio
* to nomizo	(it I think)	that he will come tomorrow
*to θaro	(it I guess)	

The claim I am making then, is that so long as the main proposition is weakly asserted or parenthetical, Extraposition[11] from object cannot obtain. But it does occur if the main clause is also the *main assertion* and the comple-

[10] In some contexts extraposition from object with *ipoθeto* is possible due to the fact that apart from 'suppose', it also has the meaning of 'hypothesize' in which case it should be classified as a strong Assertive (see table on pages 108, 109)

[11] Extraposition in Mod Greek is not a syntactic phenomenon as it is in English that is, there is no "it-Extraposition" in this language. What actually occurs is a reversion of the order Subject Predicate which can be accounted for in terms of the thematic structure of the sentence.

ment clause is semantically subordinated. This means that whenever Extraposition from object takes place the complement clause normally constitutes old or background information but it does not necessarily mean that the complement proposition is also *presupposed*. Compare the following sentences

(16)a to kseris oti exo tria peδja.
it you know that I have three children.
you know it that I have three children.
b δen to kseris oti exo tria peδja.
you don't know it that I have three children.

(17)a to paraδexese oti ise δiγamos.
it you admit that you are a bigamist.
you admit it that you are a bigamist.
b δen to paraδexese oti ise δiγamos.
you don't admit that you are a bigamist.

In both (16) and (17), the complement proposition is semantically less important than the main proposition, yet, in (16)a and b it is presupposed since it remains constant under negation, whereas in (17)a and b it is not presupposed.

In the subsections that follow, we shall be dealing with all the semantic classes of predicates listed on table I (page 108) and on table II page 109) starting with the Weak Assertives.

Weak Assertives

The common feature of the weak assertives is that their complements are "weakly" asserted, i.e. the speaker is reserved and does not express a strong opinion about the truth of the complement clause. But notice that it is some of these verbs that with the assistance of a heavy stress can acquire all the characterictics of factive predicates, as I have already shown in Kakouriotis 1977.

(18)a *fénete* oti ine sarandaris
It is self-evident (lit. it seems) that he is forty
b (to) *ipeδesa*
I supposed
oti θa erxotane/θa erθi
c (to) *fantástika*
that he would come/will come
I imagined
d (to) *perímena*
I expected

Joan Hooper has noticed that "the predicates classed by their semantic content, instead of falling neatly into classes, they form a continuum so that there may not be clear breaks between one class and the next" ((1975: 93). The data from Mod Greek shows that this continuum is somehow circular since the weak assertives under heavy stress are "factivized" and thus we have predicates of the first class of list I, sharing a common feature with predicates of the last class in list II: they can both have complements which are *true propositions* and which are *not* affected by negation.

With the exception of *fenete*, however, all other weak assertives have to be in a past tense in order to have their complements presupposed. Consider a somehow similar case with the English verb 'think':

(19)a I thought it was you.
b I *thought* it was you.

Again stress and the past tense have factivized a weak assertive: in (19)a the complement proposition is counterfactual; in (19)b it is factual; in *a* the weak assertive means 'I was under the erroneous impression'; in *b* the same predicate means something like 'I knew (it)'.

In the case of *fenete* 'seem', heavy stress alone seems to be able to factivize the predicate but in all other cases, it combines with a past tense without the help of which the complement of those predicates can never be true propositions:

(20)a to ipoθeto
Present
b to fandazome oti θa erθi/oti erxete
Present that he will come/that he comes
c to perimeno
Present

As long as what is expressed by the complement preposition has not actually occured, we can only make hypotheses about it. But when the complement proposition represents something that has occured, the weak assertives cease to express hypotheses since by now it can be proved that their complement propositions are true propositions. In fact these predicates seem to have ceased to be assertives at all since (a): negation does not affect their complements as we have seen, (b): they can no longer be used parenthetically. In fact in both the Greek, and the English example (19)b, there is a commitment to the truth of the complement clause.

The predicates listed as "weak assertives" may have Subjunctival complements instead of Indicative ones. When *na* is used instead of *oti*, the degree of likelihood assigned to their complement proposition is further weakened and

they now express a much weaker opinion about the truth of the complement to the extent that this complement proposition is no longer an assertion. It is not surprising then, that in this case their syntax is the same as that of the Nonassertive predicates, that is, they, too, take *na* complements. Like them, they express such weak affirmation regarding the truth value of the complement proposition that they now fall short of being assertive. Compare the sentences:

(21)a pistevo *na* nikisume
I believe MM win
I believe that we will win
b pistevo *oti* 3a nikisume.

There are two meaning of believe[12], one pertaining to conviction and the other to opinion; sentence (21)b may have either of these meanings. In (21)a, however, the speaker expresses a stronger degree of uncertainly about the truth of the complement proposition than in (21)b. An adverb like 'firmly' or 'absolutely' which expresses a strong opinion or conviction can fit in (21)b but never in (21)a as witness:

(22)a *pistevo akraδanda *na* nikisume
firmly
b pistevo akraδanda *oti* 3anda *na* axikisume

pistevo, *fandazome* and *ipo3eto* when followed by a *na* complement express *wish*, *possibility* or *probability*. On the other hand, *nomizo*, when it takes a *na* complement it is always negative.

(23)a *nomizo na ir3e
I think MM he came
b δen nomizo na ir3e
not think MM he came

Notice that the negation is always in the higher verb:

e *nomizo na min ir3e.
I think MM not came.

This fact poses problems for the rule of negative transportation since 'nomizo' is one of the verbs that they do allow negative raising that is, (23d) and e are synonymous on at least one reading:

(23)d nomizo oti δen ir3e,
I think that he didn't come

[12] It seems that there exist two 'believes' one pertaining to conviction, the other to opinion. If followed by Indicative the Mod Greek *pistevo* can have either meaning. But if it takes a *na* Subjunctive complement it may not refer to the speaker's convictions.

e ðen nomizo oti ir3e
I don't think he came

It might be the case that 'na' complements disallow negative raising but *fenete* shows that they do not:

(24)a fenete na min kseri tipote.
He seems not to know anything.
b ðen fenete na kseri tipote.
He doesn't seem to know anything.

Sentences (23)b cannot be justified as derived from (23)c through negative raising since the latter is ungrammatical. The case is then, that *nomizo* does not take a *na* complement unless it is negated itself and not the lower verb only, since both, *nomizo na ir3e* and *nomizo na min ir3e* are ungrammatical.

It seems then, that, with the exclusion of *nomizo* the weak assertives when followed by a *na* subjunctival complement turn into volitional or wish predicates. Note the peculiraity of (25)b below:

(25)a pistevo
fandazome
ipo3eto
oti mja mera 3a katalikso sti filaki
that one day I will end up in prison
b? pistevo
? fandazome na katalikso sti filaki mja mera
* ipo3eto

Sentence (25)a is O.K. because the Subject-speaker weakly asserts his own future in the complement proposition. In (25)b he seems to be wishing his own doom hence the peculiarity of the sentence. People may wish they were dead but they normally do not wish they were in prison.

In the weak assertives there seems to be a semantic difference between the first person singular or present tense and all the other cases. With this person the speaker expresses a tentative opinion about the truth of the complement; but notice the difference in meaning that a difference in persons sometime involves.

(26)a nomizo, ime eksipnos
I think, I'm clever
b?nomizi, ine eksipnos
He thinks, he's clever

Sentence (23a) is an opinion about one's own self; (26)b, on the other hand, is an assertion referring to the Subject but expressed by a speaker; *nomizi* in (26)b usually means 'he erroneously believes that he is clever', a meaning

normally not applicable when the subject of the sentence happens to be the speaker himself (cf. 26a).

It seems then that when the weak assertives are used in other than the first person, as (26)b, they do not undergo the semantic reduction characteristic to those verb and thus a parenthetical reading is difficult to obtain:

	? nomizi He thinks
	? 9ari He guesses
(27) ine eksipnos, He is clever,	*ipo9eti He supposes
	*pistevi He believes

But notice that in a tense other than the Present, a weak assertive requires its *full* semantic content regardless of person, in other words, whereas the two assertive *nomizo* (26)a and (26)b are not synonymous, at least on one reading (28)a and (28)b are, as witness:

(28)a I thought I was clever
b He thought he was clever

Both (28)a and (28)b may mean 'wrongly believe' or 'be under the erroneous impression': the speaker can admit past mistakes.

The parenthetical, semantically reduced reading of the weak assertives then, is more or less confined to the Present tense first person singular:

	pistepsa[13] I believed
(29) ??imuna eksipnos, I was clever	ipeðesa I supposed
	nomisa I thought

Strong Assertives

Contra the Kiparsky's, for some non-factive predicates extraposition is not obligatory:

(30)a (to) oti 9a nikisume ine veveo
(The) that we will win is certain

[13] All these predicates, when parenthetically used, become synonymous to *9aro*, the weakest assertive. But it is hard to obtain such a reading in the Aorist (Perfective). Note that *9aro* has no Perfective tenses: **9arisa*, **9ariso*, **exo 9arisi*. Nor can its English counterpart 'guess' be used in a Perfect Tense with a parenthetical meaning, i.e. he is right, I gues vs. *he is right, I have guessed.

b ine veveo oti θa nikisume
It is certain that we will wi

With other non-factives, however, it is obligatory:

(31)a *to oti θa nikisume, *pistévete*
The that we will win, it is believed
b pistevete oti θa nikisume
It is believed that we will win

This can be explained in terms of strong and weak assertion. Sentences (30) has a strong assertive predicate, sentences (31) a weak one.

I have explained extrapositionin terms of focus and thematic structure in Kakouriotis (1979) where I have claimed that the focus of information is always contained in the main assertion of a sentence. The difference between strong and weak assertive preidicates is that whereas in the former either the main or the subordinate clause can become the main proposition (and also the focus), in the latter, owing to their reduced semantic content, they give way to the subordinate clause which becomes the assertion and contains the focus of the sentence. But extraposition puts at the end of the sentence what is new or important information. But clearly the end position is not the right place for the weak assertive which is semantically reduced and cannot receive a heavy stress. Put it in another way, in (30)a, either ***nikisume*** (subordinate) or ***veveo*** (main) can act as foci of information; in (31) on the other hand, only ***nikisume*** can become the focus because the main clause verb ***pistevete*** 'it is believed' is a weak assertive.

Yet, the end position is not always retained for the focus of information; sometimes the focus in positioned just before the end of the sentence comes; what follows, however, is separated from focus by comma intonation; sentence (31)a can, then, appear with the same order of the elements provided athat the last element ***pistevete*** is not the main assertion and it is not the focus of the sentence, that is, provided that the main predicate 'pistevete' is parenthetical:[14]

(32) θa ***nikisume***, pistevete
We will, in is believed.

Whereas all the predicates listed as weak assertives can also have subjunctival complements, only very few of the strong assertives can be followed by the subjunctive i.e. ***epimeno*** 'insist', *ipoloyizo* 'calculate', ***simfono*** 'agree', are aomng them.

G. Leech discussed the verbs '***wish***', '***want***' and '***insist***' and postulates an underlying feature "volition" for all three of them (1974: 303). I tend to think that 'insist' has apart from the feature "volition" another feature i.e.

[14] In such a case the complementizer *oti* is normally deleted.

'deontic''. In fact in either of these cases the Mod Greek *epimeno* takes a *na* subjunctival Complement (cf. the English where there is an alternative between Subjunctive and a *should-* construction e.e. 'I insist that he be present' vs. 'I insist he should be present':

volitional: i θia mu epimeni na vlepi tenies porno
My aunt insists on watching blue movies
deontic: b i θia mu epimeni na meletao perisotero
My aunt insists that I should study harder

Notice that a "volitional" predicate can, in similar cases, in particular when the verb of the Subjeunctive complement is the Present tense, have this complement presupposed. Sentence (33)a presupposes *i θia mu vlepi tenies porno* 'my aunt watches blue movies'. On the other hand, when the predicate is a strong assertive and it takes an *oti* Indicative complement, this complement is never presupposed, as for instance in ((33)c.

(33)c i θa mu epimeni *oti* vlepi tenies porno.
My aunt insists that she watches blue movies.

Nonssertives

This class of predicates is always followed by Subjunctive,[15] the first type of the lexical item i.e. *apiθano* '*unlikely*' Of the two non-impersonal predicates *amfivalo* 'doubt' and *arnume* 'deny', the former expresses a very weak opinion concerning the truth of the complement proposition; the latter is nonassertive by virtue of its negativeeness.

Notice that a negated *amfivalo* turns into a strong assertive: absence of doubt implies certainty. We have said that complement proposing with subsequent parenthesization of the main clause obtains only in assertive predicates: *amfivalo* and *arnume* and can be parenthetical only when negated:

(34)a	arnume
*ise eksipnos,	I deny
You are clever,	amfivalo
	I doubt

[15] *arnume* is an exception; but this predicate looks like a negated strong assertive i.e. it means 'to say that something is not true'. It thus complies with the syntax of a strong assertive which retains the Indicative when negated (c.f. *leo* 'say'):

δe leo oti ise eksipnos
not I say that you are clever
I do not say that you are clever

b	ðen t arnume
ise eksipnos,	I dont't deny
You are clever,	ðen amfivalo
	I don't doubt

Semifactives

There is a class of predicates which is rather hard to classify. This is so so because if stands between factives and nonfactives containing characteristics of both. Karttunen (1971) was the first scholar to draw a line between pure factive and semifactives; the former presuppose their complements under any condition; the latter do not. Consider the following:

(35)a lipase pu exase i omaða su?
Are you sorry that your (favourite) team lost?
b stenoxorjese pu pandreftike i lusi?
Do you bother that Lucy got married?

Questioning cannot alter the truth of the complements of (35)a and b *i omaða su exase* and *i lusi pandreftike* respectively. If you negate the sentences, we will witness the same thing again: the complement caluse will remain constant. Notice that stress cannot affect the truth of the complement clause, either. No matter which item of (35)b: *stenoxorjese*, *pandreftike* or *lusi* is stressed the complement clause is still presupposed.

Consider, however, the verb *ksero* 'know' which is supposed to be a factive predicate:

(36)a (*to*) *iksera* oti θa erxotone
I knew it that the would come
b iksera oti θa erxotane
(I thought) he *would* come

Only in case the main predicate (the semifactive) is heavily stressed is the complement clause presupposed. The same applies to the interrogative and the negative of (36). Their complements too, remain constant if and only if the main predicate is heavily stressed. It seems then, that whereas heavy stress tend to factivize weak assertives like, *perimeno*, *fandazome*, *opiθeto*, the absence of a heavy stress, from a factive like *ksero*, has the ipposite effect. This predicate has now been defactivized and it behaves like a weak assertive, that is, like *perimena*, *fantastika* and *iperθesa*.

Other semifactives behave in a similar way:

(37)a to *émθaa*
I learned oti pandreftikes
(factive)

b *eplilrofori9ika* that you got married
I was informed

(38)a ema9a
epliroforí9ika oti *pandreftikes* (nonfactive)

A sentence that questions the truth of the complement can be added in (38) but not in (37) as witness:

(37)a' *to *éma9a* oti pandreftikes, ine ali9ja?
I learnt it that you got married, is it true?

(38)a' ema9a oti *pandréftikes*, ine ali9ja?

You cannot question what is presupposed (37)a' but you can question what is asserted (38)a'. Like all assertives, *ema9à* and *pliroforori9ka* can have their complements preposed:

(39) *pandréftikes*, ema9a
pliroforí9ika

But complement preposing cannot obtain in (37)a, hence the unacceptability of (37)a".

(37)a" *pandreftikes, to *éma9a*

The assertive predicate *ema9a* is also the focus and it cannot be reduced to a parenthetical status. This complies with the part of theory which maintains that factive predicates cannot undergo complement preposing. In sentence (37) *ema9a* and *pliroforí9ika* are factives and the proposition *panddreftikes* 'you got married', is presupposed. In (38), on the other hand, they are assertives and the complement clause is not presupposed.

Another characteristic of semifactives which share with other assertives but not with any true factives is that their complements are "weakly" presupposed.[16] Consider, for instance, the following sentence:

(40)a δen iδa oti bike i meri
I didn't see (notice) that Mary came in

In the preferred reading what is negated is the main proposition *δen iδa* and the complement remains constant i.e. it is a true proposition. There are cases, however, when an element of the complement caluse can be negated too i.e. either *bike* or *meri*, as for instance when I am contradicting someone who insists that I have seen *Mary* coming in and I imply that it *wasn't* Mary but somebody else that I saw:

[16] As it might be expected (41)a can have a *to* clitic whereas (41)b cannot; *to ksero* oti iparxi δiafora, *to *ksero* na iparxi δiafora, that is with a *na* complement, *ksero* cannot become a focus.

(40)b ðen iða oti bike i *meri* ala i eleni
I didn't see (notice) that *Mary* came in but that Helen did.
Thus *iða* may or may not have its complement presupposed.

The ambiguity of a sentence like (40) casts doubts on the claim that a proposition may not be both asserted and presupposed in a single token. A more thorough study of discourse may lead to a revision of this theory.

Like all the weak assertives, and some of the strong assertives, the semifactives can have a *na* complement too. This happens whenever a weak opinion about the truth of the complement is expressed:

(41)a ksero *oti* iparxi mja ðiafora anamesa tus
I know that there is a difference between them

b ksero *na* iparxi mja ðiafora namesa tus
I know there to be a difference between them

Sentence (41)a has on one reading its complement presupposed. In sentence (41)b the speaker never commits himself to the truth of the complement proposition.

Pure Factives

We have seen that the semifactives are weakly presupposed and that there are cases when a non-factive interpretation may be assigned to them. Stress and negation can alter their complements as far as commitment to their truth is concerned.

What characterizes the pure factives is that their complement proposition remains constant under any conditions. Thus the negated factives below do not alter the complement proposition *pandreftike i meri* 'Mary got married'.

(42)a ðen lipame
I am not sorry
b ðen stenoxorjeme
I dont' bother pu pandreftike i meri.
c ðen metrai that Mary got married.
It doesn't count
d ðen exi simasia
It is not important

As far as their syntax is concerned, we notice that unlike the semifactive class, they allow of no complement preposing with subsequent parenthesization of the main proposition:

ksexno
I forget

(43) *i meri pandreftike, stenoxorjeme
Mary got married I bother
metrai
It counts

The complementizer for all factives is *pu*. Some of the predicates of this class of factives, the so-called emotive, can take a participial complement (Adverbial Participle) provided that they are not impersonal expressions.

(44)a lipiθika maθenondas ta nea
Participle
I was sorry to hear the news

b stenoxoriθika vlepondas ton
Participle
I felt sorry when I saw him him

The participial complement following such predicates is a verb of perception. This is a case when the complement clause has a non-finite verb.

Pure factives can be followed by a *na* complement. A subjunctival complement does affect the factivity of the complement. Normally the *na* complement of factive predicates, when in the 2nd person singular has a generic meaning and no commitment to the truth of the complement is involved. Compare.

(45)a metrai *pu* exis δiploma xoru
It counts (the fact) that your have a diploma in dancing
b metrai *na* exis δiploma xoru

Sentence (45)a refers to the addressee himself and to the fact that he has got a diploma in dancing. In sentence (45)b on the other hand, the second singular has a generic meaning though it may include the addressee as well. A good paraphrase (45)a will have *to oti* in place of *pu*; one of (45)b will contain the conditional conjunction *an* 'if' instead of *na* again preceded by an article.

(46)a metrai to oti exis δiploma xoru
b metrai to an exis δiploma xoru

A *pu* complement always presupposes the truth of the complement whereas a *na* subjunctival one expresses a hypothesis.

We have discussed the semantics of the complement clauses. Our analysis though based on Hooper's observations has followed another line and has underlined the importance of focus and stress in classifying predicates into assertives and non-assertives. Some of our findings are a) Indicative Mood is the mood of assertive predicates; b) assertive predicates are the only predicates capable of having a parenthetical reading on which the main proposition of a sentence is semantically subordinated and the complement proposition

becomes the main assertion of the sentence. Pace the Kiparskys, however, there is no clear cut line between factives and nonfactives since representative nonfactive predicates (weak assertives) can have their complement clause presupposed if heavily stressed (*fenete*) or, heavily stressed and in a past tense (*perimena, ipe9esa, fandastika*). Apart from this fact, there is the case of the semifactives which are ambiguous between one reading on which their complement is presupposed, and then they function as factives and another reading on which their complement is not presupposed in which case they function as assertive-nonfactives.

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ON SOME SUBJECT CLAUSES IN ENGLISH AND POLISH

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0. Abstract

The aim of this paper is to look for the best way of a unified analysis of subject complements in English and Polish. In the first section three major
The aim of this paper is to look for the best way of a unified analysis of subject complements in English and Polish. In the first section three major approaches in transformational grammar are presented. Further sections present subject complements in English and Polish. In the first section three major approaches in transformational grammar are presented. Further sections present an attempt of the analysis of Polish data in terms of the three theories. The conclusion is that the classical Extraposition is the best of the three approaches to account for some initial Polish data and that it should be maintained for a framework for English-Polish contrastive grammar. In the last section some problematic cases concerning *that*-clauses are discussed i.e. sentences beginning with *the point is...*, *the fact is...*, etc. It is argued that they should be analysed in the terms of Extraposition and *it*- dismount transformation which is formulated in this paper.

1.

Polish subject *że*-complement constructions[1] exhibit a lot of interesting phenomena when they are confronted with their correspodning English sentences.

1. To, że on tam pójdzie jest oczywiste.

[1] In this paper I deal exclusively with English *that* and Polish *że* complements. Polish infinitival constructions in subject clauses are rare and they do not exhibit the interesting phenomenon of retaining *to* in subject position.

Pójść tam jest przyjemnie.
Jest Przyjemnie pójść tam.
*To, pójść tam jest przyjemnie.

2%. Że on tam pójdzie jest oczywiste.
3%. To jest oczywiste, że on tam pójdzie.
4. Jest oczywiste, że on tam pójdzie.
5. To, że on zdobędzie pierwszą nagrodę jest oczywiste.
6%. Że on zdobędzie pierwszą nagrodę jest oczywiste.
7%. To wydaje się oczywiste, że on zdobędzie pierwszą nagrodę.
8. Wydaje się oczywiste, że on zdobędzie pierwszą nagrodę.
9. Jasne jest, że on zdobędzie pierwszą nagrodę.
10. Jasne, że on zdobędzie pierwszą nagrodę.
11. To jasne, że on zdobędzie pierwszą nagrodę.[2]

1a*. It that he will go there is obvious.
2a.. That he will go there is obvious.
3a. It obvious that he will go there.
4a*. Is obvious that he will go there.
5a*. It that he will win the first prize seems obvious.
6a. That he will win the first prize seems obvious.
7a. It seems obvious that he will win the first prize.
8a*. Seems obvious that he will win the first prize.
9a*. Clear is that he will win the first prize.
10a*. Clear that he will win the first prize.
11a*. It clear that he will win the first prize.

The acceptability of Polish sentences marked with % varies from speaker to speaker. The distinction between dialect 1 where those sentences are unacceptable and dialect 2 where those sentences are acceptable is made throughout the paper. This, of course, does not imply that there exists a systematic division into dialects with respect to the above phenomenon or that the above distinction has anything to do with regional or social varieties of Polish.

It is assumed in this paper that *to* in the above constructions corresponds to English *it*. In many other cases there is no such correspondence. It may be argued that Polish *to* has a higher degree of demonstrativeness than the English *It*. It is possible to assign focus to Polish *to* in sentences like 12 whereas the English congruent structure is unacceptable.

12). TO jest ważne.

12a*. IT is important.

where 12b is the proper equivalent of 12.

[2] Many sentences relevant to the present discussion, like multiple embedded complements, pseudocleft, etc., are not discussed here. A more fair analysis of the entire phenomenon will be given in Kalisz (in progress). Pseudocleft sentences in Polish exhibit an interesting phenomenon of retaining the double *to*.

Co jest jasne *to to*, że nie mamy wyboru.

12b. THIS is important.

To is an equivalent of *this*, *that* and *it* in different sentences, however, *to* seems to perform the same function as the English *it* in subject complement clauses serving as the antecedent of a complement sentence. The focus assignment to *to* in subject complement clauses is impossible as in the case of English equivalents.

13*. TO jest ważne, że przyszedł.

14*. TO, że przyszedł jest ważne.

13a*. IT is important that he came.

2. The three approaches

There are three major approaches in transformational grammars of English concerning the presentation of the relation between sentences like 15 and 16.

15. That he went thre seems obvious.

16. It seems obvious that he went there.

The approaches are Extraposition 1, Intraposition and Extraposition 2.

2.1. Extraposition 1

Rosenbaum (1967) has formulated a very well known rule of Etraposition relating sentences like 17 and 18 or 19 and 20.

17. That he is a genius is obvious.

18. It is obvious that he is a genius.

19. That he will receive this award seems reasonable.

20. It is reasonable that he will receive this award.

Sentences 17 and 19 are closer to the underlying structure whereas 18 and 20 are derived by Extraposition which has been formalized in the following way.

21.		X	$NP^{[s]}$	VP	Y
	SI	1	2	3	4
	SC	1	Ø	3+2	4

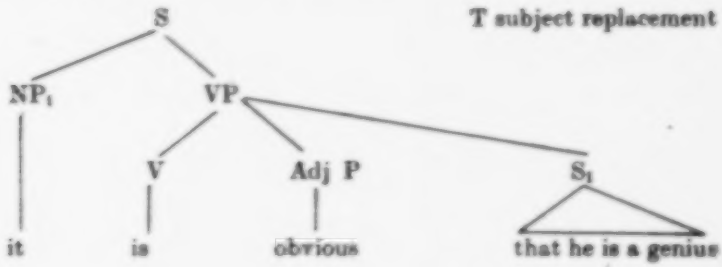
It correferential with S is present immediately before S node in the underlying structure. *It* is obligatorily deleted when the Extraposition does not apply and it is obligatorily retained when the Extraposition does apply. Complementizers are inserted transformationally by Complementizer Placement transformation.

The majority of linguists accept the above transformation although with minor changes sometimes, i.e., the transformational introduction of *it* e.g. Keyser and Postal (1976) or a different status of complementizers (Breman 1972).

2.2. Intraposition

An alternative approach is presented in Emonds (1970), within a broader hypothesis concerning the division of transformations into root and structure preserving. Emonds claims in his dissertation that sentences like 17 and 19 are derived from 18 and 20 respectively by Subject Replacement transformation (the transformation called Intraposition in Baker and Brame (1972)). Subject Replacement transformation is considered to be a root transformation destroying the basic structure of a sentence

22.



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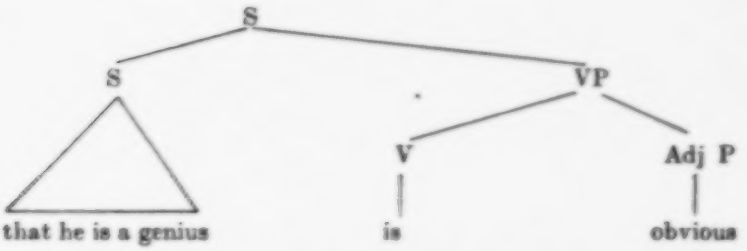


The differences between Edmonds' (1970) analysis and Rosenbaum's approach do not pertain solely to the directionality of the movements of the two transformations but also to the nodal categories which dominate complement sentences. In Rosenbaum's approach, *that*-complements can be dominated exclusively by NP nodes. Rosenbaum justifies his claim on the basis of the possibility of pseudo-cleft formation with complements and passivization.

24. What is obvious is that he is a genius.

25. That Mary is beautiful is believed by anyone.

Emonds (1970) argues that *that* and *for... to* complements are never dominated by NP. Non-NP behavior is brought by Emonds to justify his claim.[2] Other restrictions imposed on Intraposition come from the general characteristics of root transformations i.e. root transformations are applied only once in a given sentence and they cannot be applicable in an embedded clause.

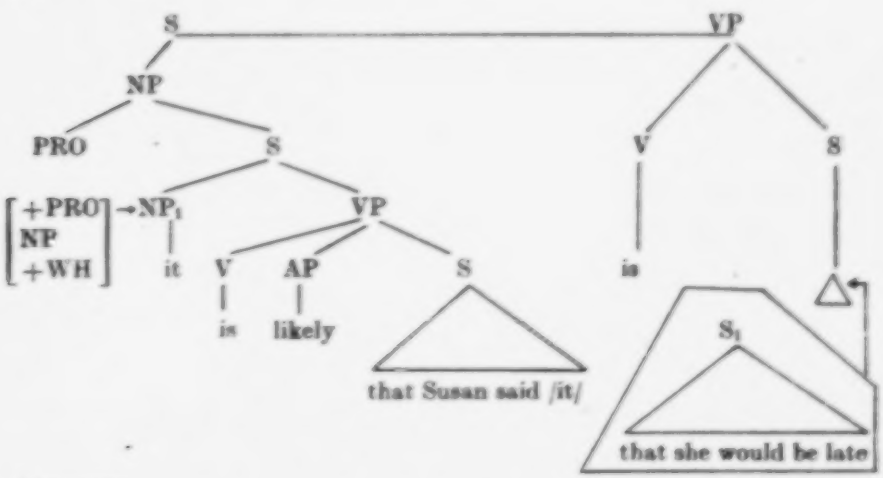
2.3. Extraposition-Interaposition controversy

Higgins (1973) argues at length against Intraposition in favor of Extraposition on the basis of five types of constructions i.e. pseudocleft sentences, topicalization, sentential relatives and two kinds of comparative constructions. Higgins maintains that the analysis of the above sentence types can be handled in a better way when Extraposition analysis is retained. The majority of his arguments pertains to the treatment of *it* in Emonds' theory although Emonds himself states that his treatment of *it* is essentially the same as in Rosenbaum (1967). According to Higgins (1973) there is no way of preventing the derivation of 26 (Higgins' 14) if Emonds' analysis is to be maintained.

26*. What is most is likely that Susan said (it) that she would be late.

Higgins (1973:156) presents 27 (his 13) as a derivation made in Emonds' terms which is supposed to lead to the ungrammatical 26.

27.



[2] Most recently G. Horn (1977), favoring Extraposition 1, has elegantly shown that at the initial stage of derivation, complements behave like NPs since they are dominated by NP node to the moment of *it* Deletion and the pruning of NP node in $_{NP}[S]_{NP}$, where NP no longer branches. After pruning complements stop behaving like NPs.

Higgins writes that there is no coreference marking in Emonds (1970) that would prevent such a derivation. Emonds' analysis, however, can be maintained since such a sonstraint can easily be formulated. Such a principle may probably be stated as follows: *It* dominated by a subject NP is coreferential with an S which is immediately dominated by VP in the same clause. This constraint on coreferentiality is sufficient, at least for cases like 27 which would be rejected on the basis of the above principle. The coreferential assignment would correctly mark *that Susan said that she would be late* as coreferential with NPi in 27.

Higgins (1973) does succeed in demonstrating that Subject Replacement has to be applicalbe in embeded delauses (see e.g. Higgins' discussion of topicalized constructions (1973: 159 - 160). Nevertheless, he does not succeed in showing throughout his paper that the directionality of movement of complement clauses should be from left to right (Extraposition) and not vice versa.

In Kalisz 1977, (in progress) I defend Interaposition against Higgins' criticism bringing out some syntactic and semantic arguments. Let me present one of them.

28. That he is a nice person and that he will do it for us is obvious.

29. It is obvious that he is a nice person and that the will do it for us.

Both 28 and 29 are ambiguous having at least two readings. According to one reading the fact *that he is a nice person* is obvious and the other fact *that he will do it for us* is obvious. On the other reading a conjunction of the two facts is obvious. The difference between the two readings of 28 is syntactically marked in Polish. 28a and b correspond to the first and the second reading of 28 respectively.

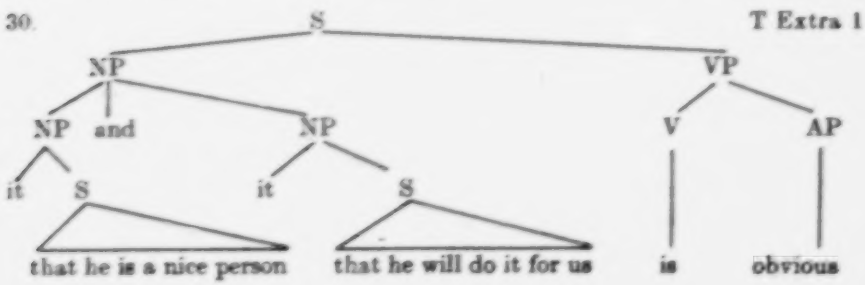
28a .To, że on jest miły i to, że on to zrobi dla nas jest oczywiste.

28b. To, że on jest miły i że zrobi to dla nas jest oczywiste.

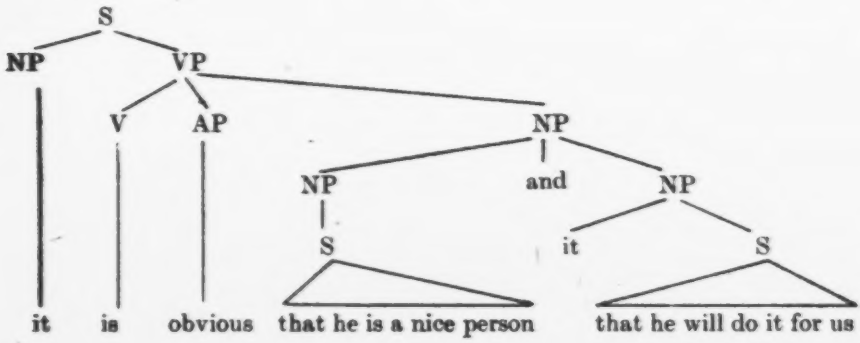
To accound for the conjunctive reading Extraposition 1 has to be modified, otherwise 29a would be generated.

29a*. It is obvious that he is a nice person and it that he will do it for us.

30.



31.=29a



31 is blocked by a more general constraint saying that nonconstituents cannot be moved since *that he is a nic e person and it that he will do it for us* is not a constituent.

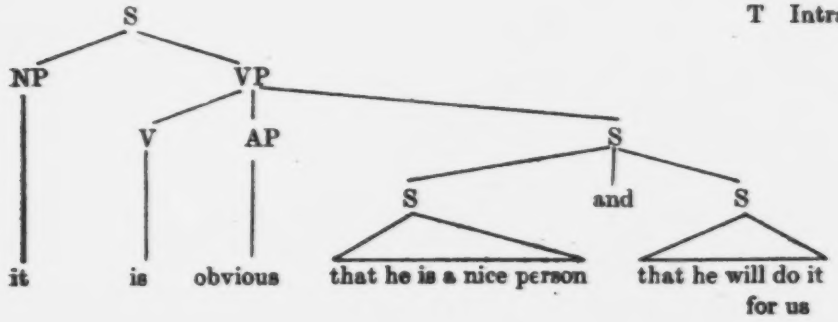
If one would claim that both *its* are affected by Extraposition, then 32 would be produced.

32*. It, it is obvious that he is a nice person and that he will do it for us

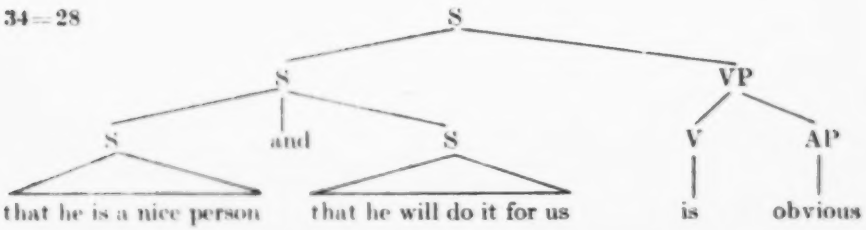
Extraposition 1 analysis can be saved by postulating an *ad hoc* constraint to the effect that only one *it* remains in a subject position and all other occurences of *it*, as sisters of complements, are deleted. Furthermore, the correct assignment of *it* in the underlying structure is probably to the NP dominating the conjunction. I have not met, however, such a formulation and it does not follow from Rosenbaum 1967 analysis. Intraposition, however, does not need any additional constraints or modifications in order to account for the conjunctive readings of 28 and 29.

32.=29.

T Intra



34=28



For the other readings of 28 and 29 Extraposition and Intraposition analyses are almost mirror images of each other, disregarding nodal assignements.

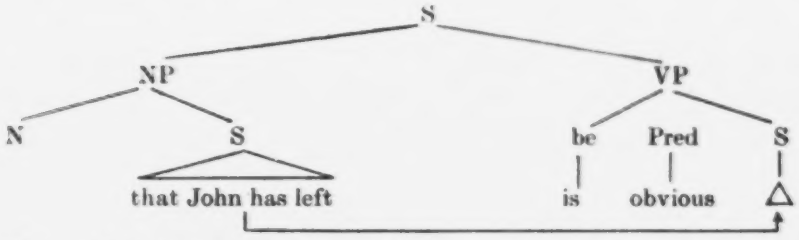
2.4. Extraposition 2

Emonds (1976) presents still a different analysis of the phenomenon. In his more recent work he formulates a new rule of extraposition. Ha does not, however, argue against his earlier analysis in terms of Intraposition stating that both can probably be maintained with equal results. Extraposition as formulated in Emonds (1976:122) requires empty nodes to which *it* and the complement are inserted.

35.

	X	$NP^{[+S]}$	Y	$S^{[+]Z}$
SI	1	2 3	4	5 6
SC	1	it Ø	4	3 6

36.



The underlying structure possesses an empty node under N which is a sister constituent of the complement in the subject position. This node is deleted when Extraposition does not apply.

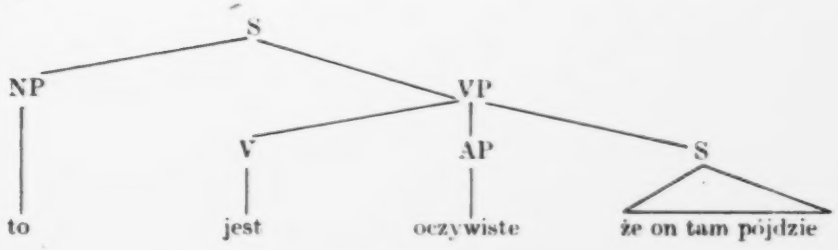
3. The three approaches in Polish and in English-Polish contrastive grammar

Let us now consider the three approaches in terms of their applicability to Polish data. The evaluation of the approaches will be based on the number and seriousness of revisions necessary for the derivation of 1—11.

3.1. Extraposition 1

37=(1)

38 (3)



The existence of *to* in the underlying structure is motivated for Polish since it may be preserved throughout the operation. The underlying structure 37 (1) is identical with the underlying structure for the English sentence 2a. The difference between 1 and 2a consists in the applicatuon of the obligatory Pronoun Deletion transformation as formulated in Rosenbaum 1967 for English sentences like 2a. Such a transformation is blocked in Polish dialect 1 and is optional for dialect 2. 38 is identical with the extraposed sentence 3 which is possible only in dialect 2. 4 can be derived by Polish *to* Deletion transformation.

39. to Deletion		X	NP[to*X*]	być	Y	S	Z
(optional)	SI	1	2	3	4	5	6
	SC	1	Ø	3	4	5	6

39 is independently motivated for a variety of "subjectless" Polish sentences like *Jest ładnie*. *To* Deletion is a different transformation for the English-like Pronoun Deletion from [to S] which has to be blocked for dialect 1.

Polish *to* Deletion has to be applied after *być* Dleetion so that 11 can be produced.

11. To jasne, że on zdobędzie pierwszą nagrodę.

40. *być* Deletion (optional)		X	NP[to]	być	Y	S	Z
	SI	1	2	3	4	5	6
	SC	1	2	Ø	4	5	6

Być Deletion is independently motivated for other sentences or sentence equivalents like 41.

41. To jasne jak słońce.

It is claimed in this paper that sentences like 9 are derived from structures like 38 by *to* Dismount transformation.

9. Jasne, jest że on zdobędzie pierwszą nagrodę.

42. *to* Dismount[4] (optional)		X	NP[to]	jest	Adj	S	Z
	SI	1	2	3	4	5	6
	SC	1	4	3	Ø	5	6

42 is presented as a replacement transformation since Adjective Fronting would produce unacceptable sentences like 43.

43*?. Jasne to jest, że on zdobędzie pierwszą nagrodę.

It can be claimed that Adjective Fronting would be applicable after *to* Deletion. However, *to* Deletion has to be applied after *być* Deletion because 9 would not be produced. The order of transformations should be formulated as follows in order to account for 1—11 in the best way:

44. I. Optional *to* Deletion from NP to S in dialect 2. Blocked for dialect 1.
II. Extraposition 1
III. Polish *to* Dismount
IV. Polish *być* Deletion
V. Polish *to* Deletion

Polish sentences like 10 can be derived by the application of either I, III, IV or II, V.

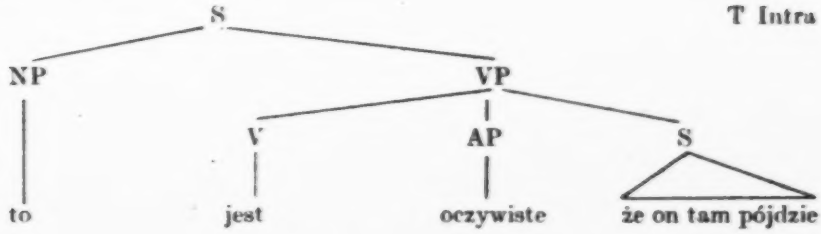
III, IV, and V are transformations that are applicable only in Polish, therefore English sentences 4a, 8a-11a are ungrammatical. I is applicable only in Polish dialect 2 and it is optional However, it is obligatory in English when II is not applied. For that reason English sentences 1a and 5a, where I has not been applied, without the application of II are unacceptable, and corresponding Polish sentences 1 and 5 are perfect.

It will be noted in the final section of this paper that III has to be reformulated to allow the replacement of *to* by nouns. It will be claimed that III, substituting nouns for pronouns, has to be postulated for English too.

[4] 42 is called Dismount in order not to be confused with Emonds' *it* Replacement.

3.2. Intraposition in Polish

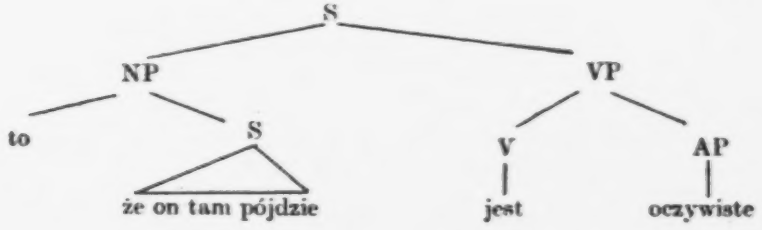
45 (3)



46 (2)

Intraposition, as it was formulated in Emonds 1970 cannot account for sentences like 1 or 5. The node [to S] seems to be absolutely necessary for Polish in the intraposed position. Intraposition can no longer be viewed as Subject Replacement transformation if it would claim to account for Polish data. There is a possibility of saving Intraposition by its reformulation. Intraposition would not be a root transformation but would have to be structure preserving. The conclusion is similar to that in Higgins (1973) study or in Postal (1974), though each arrived at on different grounds.

47 (output of revised Intraposition)



47 is nothing else but an underlying structure in terms of Extraposition 1 analysis. 47 is a base-generated string in terms of Intraposition and the extra-

posed sentence within the concurrent theory. In such a formulation the two analyses are mirror images of each other and there seems to be no evidence to give one preference over the other. 44 would have to be reformulated if the revised Intraposition were maintained. III—V would be applicable before Intraposition only if Intraposition were not applied to a given string

3.4. Extraposition 2 and Polish

Exrtaposition as presented in Emonds (1976) does two things. It inserts *it* under the empty node N and moves the complement sentence under the empty S node, which is a constituent of VP. In Polish dialect 1 *to* would be inserted under the exactly opposite condition i.e., it would insert *to* under the empty node N when Extraposition has not been applied to a given string and the insertion of *to* would be blocked, i.e. the empty N node would be deleted when Extraposition is applied. This correctly matches the situation in dialect 1, which is exactly the opposite from English. For dialect 2, however, *to* insertion makes no sense since *to* can be present both before and after Extraposition.

3.5. The conclusion is that Extraposition 1 is the best suited operation for the analysis of Polish subject clauses since it requires no essential modification and it can be easily supplemented by a series of transformations necessary for the derivation of some Polish sentences containing subject clauses. The virtue of this approach is that it contains [to S] node in the underlying structure, which seems to be indispensable for the analysis of Polish subject clauses, especially in dialect 2.

5. Some further cases

I have been puzzled for some time by sentences like 48—50.

48. The fact is that we have no choice.

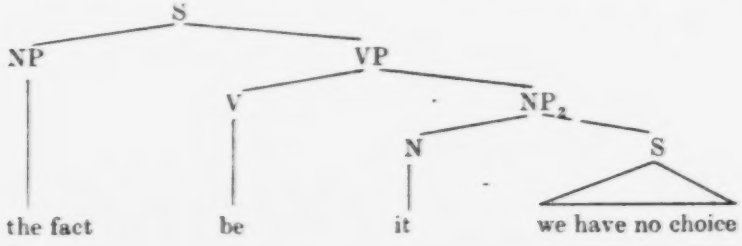
49. The truth is that we have no choice.

50. The point is that the President should lead this country.

(*Time*)

48—50 have been analysed traditionally as in 51. For the most recent analysis in these terms see G. Horn (1977).

51.



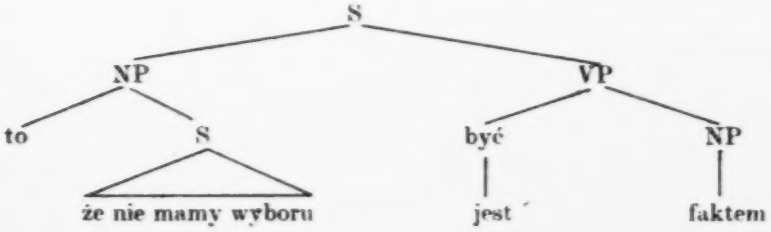
Polish equivalent sentences to 48 and 49 are 48a and 49a.

48a. Faktem jest, że nie mamy wyboru.

49a. Prawdą jest, że nie mamy wyboru.

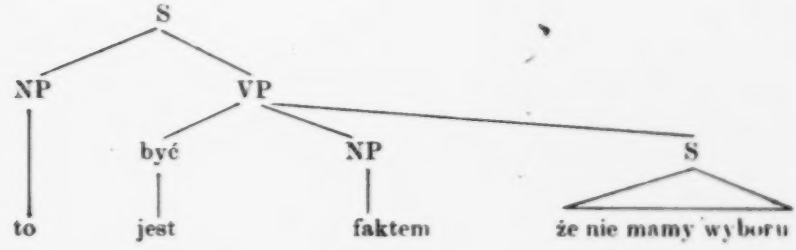
Polish initial NPs in the above sentences are in the intrumental case and they have never been viewed as subjects in Polish grammars. The correct, I believe, analysis of these sentences is as follows:

52.



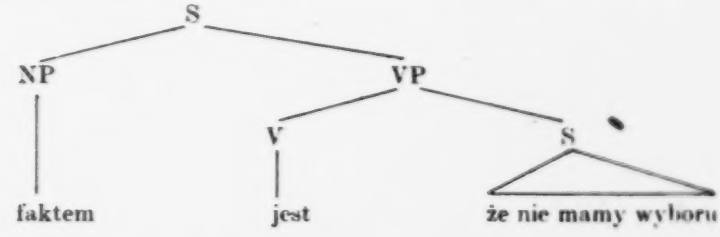
Extraposition 1 triggers:

53.



To Dismount produces:

54.



It seems that such an analysis can throw some light on English sentences like 48—50. Since English has almost no surface case marking it is not surprising that subjecthood may be perceived in English in a slightly different way

On the other hand it would be somewhat odd to analyze sentences like 48—50 as completely different structures from 49a and 48a though the absence of the equivalent construction in Polish of *the point is...* may partially motivate such a different treatment.

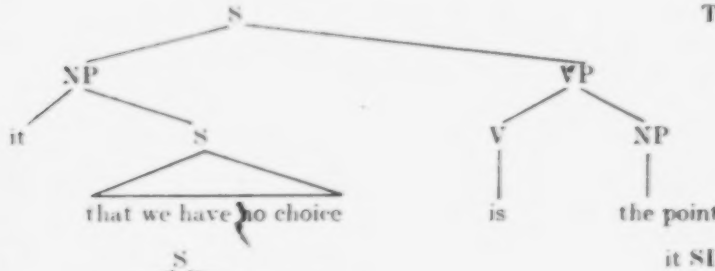
Some of my Berkeley informants considered sentences like 55 and 56 as acceptable.

55'. That we have no choice is the point.

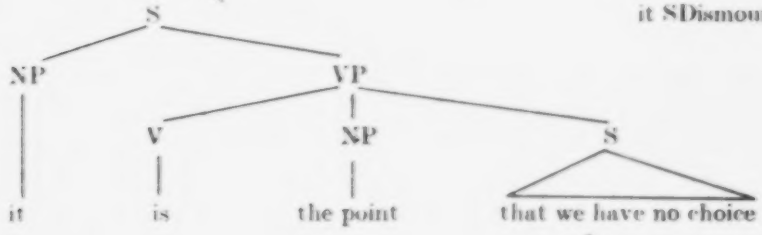
56. That he went there is a fact.

If the above sentences are acceptable the question concerning their relationship with sentences like 48—50 arises. My guess is that sentences like 48—50 are derived from underlying structures which are similar to 55 and 56 by means of Extraposition and *it* Dismount, similar operation to Polish *to* Dismount.

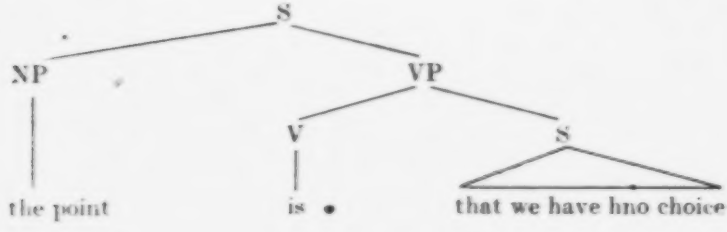
57. T Extra 1



58. it SDismount[5]



59.



[5] It is possible that such a transformation has already been postulated for English, and it is even possible that I have seen it but I do not remember when and where.

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THE MONITOR MODEL AND CONTRASTIVE ANALYSIS

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Introduction

After three decades of contrastive linguistics we must admit that traditional contrastive analysis has failed to meet the objectives which were initially set to it. The bulk of books and papers on language contrasts is quite impressive but the number of applications remains insignificant. It is no wonder that there are more and more people who accept the criticism directed against the applicability of contrastive analysis. Such a viewpoint has moreover been strengthened under the influence of recent, particularly American, research on second language acquisition.

The reasons for the apparent failure of traditional contrastive linguistics to serve the needs of language teaching are many. Most of the reasons can be grouped under the following categories:

(1) Theoretical linguistic analysis cannot solve problems which are not linguistic alone but require multidisciplinary approaches. Several writers, e.g. Fisiak in several papers (eg., 1973) in making the distinction between theoretical and applied contrastive studies, have pointed out that theoretical contrastive linguistics is a branch of theoretical linguistics. The theoretical starting-point has resulted in what has been termed 'parasitic' contrastive studies by Sharwood Smith (1974). This state of affairs is partly connected with the rather obscure state of applied linguistics in general: applied linguistics is seen as a field which is subservient to the development of theory, and very little attention is paid to the problems that applied linguistics is expected to solve. The 'best' linguistic model, which cannot be ignored for purposes of theoretical analysis, need not necessarily be the most appropriate basis for the purposes of applied linguistics.

(2) Theoretical linguistics has undergone a hectic period of upheaval

during the past twenty years. Traditional and early structuralist views gave way to various generative approaches but today, instead of having a fairly universal frame of reference, we are in a situation in which it is impossible to tell what the next stage will be and, what is more problematic, in which it is difficult to find a common ground for descriptions. What is beneficial in recent developments from the viewpoint of CA is the fact that, in many theories and models, what is labelled as linguistics has widened beyond the traditional code-centred dichotomy. In many cases, the previous narrow emphasis on grammatical competence has been given up, and it is now widely seen that man's communicative and social competence requires research far beyond the mere code (see Sajavaara 1977). Recent approaches are also more open to seeing language and the use of language as a dynamic process in which everything is present all the time and in which the sum total of the parts is not exactly the result of putting the parts together. Shuy (1977) has fittingly likened the grammatical elements to the visible top of an iceberg, which has been the focus of everybody's attention despite the fact that it is the mass under the sea level that sinks the ship.

(3) The theory and methodology of CA have remained undeveloped. In most cases CA has had a purely linguistic starting-point, and the interrelationship between CA and the theories of language acquisition and language learning has been rather vague. Only occasionally has a serious attempt been made to connect the two (the work by the Kiel project (see Wode 1978) and the Copenhagen PIF project, to mention a couple of outstanding exceptions). Initially, CA was generally associated with behaviourist learning theories, mainly through its closeness to early structuralism but, beyond that, the link has been negligible. If CA is to serve the needs of foreign language teaching, greater attention should be paid to research on second language acquisition/learning.

In this paper, an attempt will be made to discuss the link between the theory of second language acquisition and contrastive analysis from a rather narrow viewpoint, that of Stephen Krashen's Monitor Model (see, eg., Krashen 1978).

The Monitor Model

In collaboration with several other researchers, Stephen D. Krashen of the University of Southern California has synthetized his work on how children and adults come to control languages. He has labelled his synthesis the Monitor Model. It is a theoretical framework to describe the 'internalization' of target-language rules by the adult second-language learner. According to Krashen, this is possible in two ways, which are distinct from one another, acquisition and learning: language acquisition, which involves 'creative construction',

refers to an unconscious process, unaffected by overt teaching, which is also the way in which children acquire their L1 or L2, whereas language learning results from explicit presentation and memorization of rules (whether it is deductive or inductive makes no difference). Krashen emphasizes the independent nature of the two processes: acquisition is possible without learning, and learning does not necessary lead to acquisition.[1]

The Monitor Model derives its name from the role of the learned language system in the processing of language data: according to Krashen, speech performance is always initiated by means of the acquired system, and what has been learned is available as a monitor only which is used to alter, to 'edit', the output of the acquired system. Krashen seems to imply that self-correction by native speakers — after slips of tongue — is due to another 'mechanism', because native speakers need not have any meta-awareness of rules.

Krashen's Monitor has two major constraints: availability of time and focussing on form. One more powerful restriction is the insufficiency of certain rules for native-like performance; the rules are either too complex or defective to make it possible for a second-language speaker to 'monitor' correctly. Krashen also points to individual differences in the use of the Monitor (Krashen 1978), i.e. there are overusers or underusers. Foreign language teaching has traditionally produced overusers through its emphasis on error-correction as feedback. In the light of Krashen's acquisition/learning dichotomy, there are phenomena in L2 that can only be acquired—they are not available through explicit presentation of 'rules', ie. teaching in the traditional sense.

The main point in Krashen's model is the statement that also adults can acquire languages. This means that, instead of only acquisition, which is available for children, adults can rely on two processes, one conscious and the other unconscious. What was assumed until quite recently was that language acquisition is no longer possible after the 'critical age'. Adults develop, however, native-like intuitions about the second language and a feel for correctness, a 'Sprachgefühl', becomes apparent in their speech performance.

For acquisition, 'intake' based on the right kind of input is the most essential thing. Language acquirers should be exposed to input which is more complex than the stage which they have reached, and it should consist of communication which is meaningful to them and understood by them. Another requirement for ideal intake conditions is the 'lowering' of the socio-affective filter (see Dulay and Burt 1977). Caretaker speech, such as motherese (Snow and Ferguson (eds.) 1977) or foreigner talk (Hatch et al. 1978), mostly meets these criteria even without any conscious effort from the part of the caretakers.

The 'critical age' (late childhood/puberty) was earlier considered the boun-

[1] Krashen's view of the word 'learning' differs from the meaning that is generally given to this word. It implies that teaching is for him a target-bound process whose objectives are known both to the teacher and the learner.

dary between 'natural' processes of acquisition and a period when the child becomes capable of analyzing experiences and conceptualizing the world around him, when he develops a competence to 'learn' in Krashen's sense, ie. he has a conscious knowledge of the abstractions he is dealing with and is able to memorize them for future use. People without any formal language training have no meta-awareness of the rules which make up the basis of their linguistic competence.

Expansion of the Monitor Model

The fundamental ideas in Krashen's Monitor Model are easily acceptable on the basis of the intuitive knowledge that every foreign-language learner has in his possession. The basic dichotomy, the distinction between the two systems of 'rules' (reflecting the double meaning of 'grammar' as the native speaker's competence and linguists' attempts to describe that competence), is not new; it is found well before Krashen (see, eg., Corder 1967, Lawler and Selinker 1971). Similar ideas have also been put forth simultaneously by Widdowson (1977). Leontev (1973) has developed a system which comprises four levels along similar lines. Krashen, however, makes the first consistent effort to explain a variety of well-known phenomena around post-critical-period second-language performance, including the conflicting findings about language aptitude and attitude.

Krashen seems to have received his original idea from Labov, who writes that "the most consistent and regular linguistic system of a speech community is that of the basic vernacular learned before puberty" (Labov 1970:35). Labov's arguments are based on material which he worked upon in connection with delayed-feedback and white-noise experiments carried out by Mahl (1972). Labov points out that when native speakers stop monitoring their speech, the pattern superimposed on the vernacular begins to disintegrate, and he concludes that the "overt social correction supplied in the schoolroom can never be as regular and far-reaching as the unconscious effects of 'change from below' within the system".

The true nature of monitoring in speech performance remains to be studied. Restricting it to the functioning of the 'learned' system in second-language speech performance — the way in which Krashen does it — may have been necessary as a working hypothesis and as an initial model, but there are a multitude of factors that seem to imply that a speaker's second-language performance should not be considered as something distinct from his overall capacity for speech perception and production and from processes that transform communicative intentions into utterances. Labov's audiomonitoring can be defined as 'attention paid to speech", and this is roughly what is meant by Krashen's Monitor. This kind of monitoring is not restricted to second langua-

ges; people monitor, consciously and unconsciously, their own and other people's speech whatever language, L1 or L2, it is in (see Laver 1973, Cazden 1972, Levelt 1977). Cazden (1972) seems to be willing to equate monitoring with metalinguistic awareness, which implies that the nature of monitoring is dependent on the existence or non-existence of superimposed systems. It may be difficult to restrict the monitor to the last stage of the output system in the speech production programme, and the data speak for several levels which are closely interrelated and linked with the discourse history and the speaker's state of mind (Yngve 1970) and whose scope depends on the nature and presence of various internal and external constraints. Figure 1 is a highly tentative attempt to synthetize the information about the speech production processing (for a more detailed account, see Sajavaara 1978). It is important to remember that the mechanism there is for editing the output is not concerned with grammatical processing alone but various features of the semantic and pragmatic information may even be a more important object. In this context it is not possible to elaborate the problem of the constraints on monitoring. Figure 1 includes a few references to constraints which may be present. The idea of performance capacity is extremely important, because the total capacity that a person has at his disposal cannot be easily increased under normal cir-

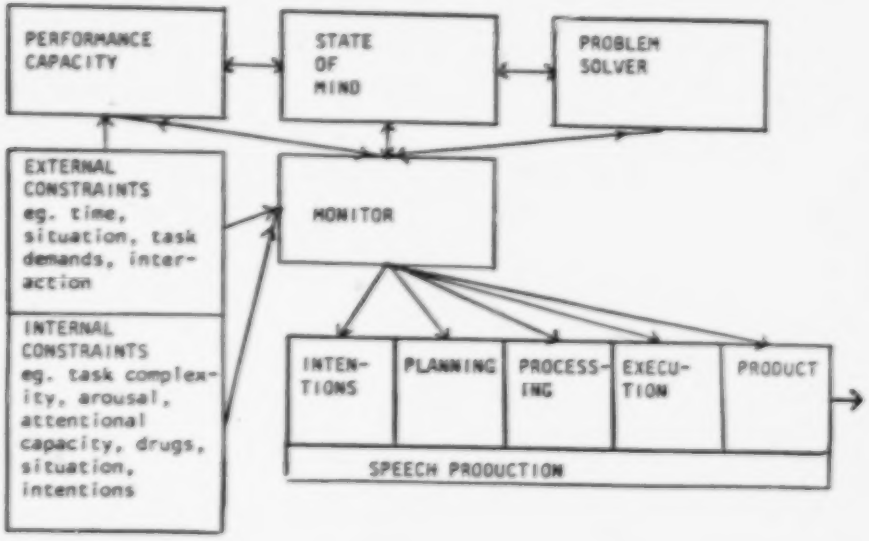

Figure 1. A tentative representation of the various parameters present in the speech production programme. It is also to be assumed that there is a direct link between the stages of speech production ,on the one hand, and performance capacity and state of mind, on the other.

cumstances and, if more capacity is needed, for instance, for problem-solving, the capacity available for monitoring is greatly reduced.

One of the major problems is one which is present in most studies dealing with human sciences: the external, observable, physical phenomena, in this case speech performance, may have no direct one-to-one relationship with mental phenomena; thinking and intentions may not be reflected in actual utterances, or are reflected only indirectly.

Krashen's Monitor provides a good starting-point for research on speech performance in which a more extensive model for communication and language acquisition/learning is developed. It does not seem necessary to make a distinction between first-language or second-language acquisition and foreign language learning and performance. Initially, a restriction to adult second-language performance may have been rewarding, but an extension of the model seems necessary. Questions to be answered for it include the following:

(1) What is the interrelationship between Krashen's model and the overall theory of language behaviour?

(2) What is actually monitored and at what stage of speech production?

(3) Is monitoring different for L1, L2, or foreign languages and, if there is a distinction, what is its nature?

(4) Can learning and acquisition be kept as distinct and independent systems and is such a distinction necessary? When does learning become acquisition, ie. how much input/intake is needed through learning before acquisition is possible? To what extent is the difference between what is acquired and what is learned due to the deficiencies in linguistic theory and the theory of language behaviour (the 'rules' do not describe a native speaker's competence)?

(5) What is the relationship between the skills involved and the automation processes, on the one hand, and the acquisition/learning dichotomy, on the other? Are there language phenomena that can only be acquired?

(6) What is the nature of the constraints on the potential uses of the monitoring system from the viewpoint of the entire communition process?

L1 influence on L2

Labov (1970:36) takes interaction between the rule systems of the variants of one and the same language for granted. "The knowledge of one system inevitably affects the other. The rules of standard English and its non-standard relatives are so similar that they are bound to interact." It may be easier for language learners or bilinguals to keep two different languages apart, particularly if the languages are genetically far removed from each other (which is actually a statement quite contradictory to the initial contrastive hypothesis) but, even if the codes, ie. the grammatical systems, can be kept distinct, there is a lot of overlap through various functions and communicative and other

intentions. The existence of a multitude of foreign accents in English and various types of pidginization and creolization processes implies cross-language influences. The picture is further complicated by the fact that these influences are not unidirectional: L2 may also affect L1, or there may be several L2s which interact and are imposed upon L1.

Plenty of evidence has been gathered in the last few years of the consistency of the patterns representing the processes through which children acquire control of L1 and L2. Moreover, the evidence for the rough similarity of the acquisition sequences of English irrespective of the acquirers' starting-point is quite convincing. The research mainly deals with the acquisition of English in natural settings, and only morpheme acquisition sequences are normally studied. It is open to question, however, whether the results of such studies are generalizable outside the sphere of morphemes and to more formal situations, in the classroom for instance.

The morpheme sequence studies give a uniform picture of the acquisition sequence (see, eg., Krashen 1977). These results can be used to deny the L1 influence on L2, because the sequences are the same for speakers of various L1s (see Dulay and Burt 1977). There is evidence, however, of individual variation (Hakuta 1974, Andersen 1977) and, to a certain extent at least, the uniformity may be due to the statistical methods used (see Rosansky 1976). The morpheme sequence technique must be extended to wider entities (see Hakuta and Cancino 1977), various syntactico-semantic functions of morphemes must be observed, and individual variation needs to be investigated in detail using various techniques (see also Dulay and Burt 1975). Second-language studies must be replicated with foreign-language learners and with learners from different age groups.

According to Krashen (1978), speech performance is always initiated by means of the acquired system and the learned system is available as a monitor for editing the output. We must assume that in acquisition-poor environments a non-native speaker would have to rely, accordingly, on his L1 competence as a performance initiator (the grammar-translation method used in the classroom provides an example). The initial L1 string is then processed, ie. 'translated', into an L2 string, whose grammaticality and acceptability depends on the availability of 'rules' and on the nature of the constraints present. As a result of optimal acquisition the L2 string is initiated and processed on the basis of the acquired L2 system without the interference of Krashen's Monitor. In this way we have two extremes: at one end we have total acquisition, which results in native-like performance without a trace of L1 influence and at the other end we have a language system in L2 which is based entirely on explicit memorization of rules (this is highly hypothetical, because it seems rather impossible to figure a full-scale learned system without any trace of acquisition), which is sufficient for the production of acceptable L2 strings

under favourable circumstances. In between there are a variety of combinations of acquired and learned partial systems. With the exception of a few L2 acquirers in ideal surroundings, most L2 speakers are located somewhere between the two extremes, which implies that at least occasionally they have to rely on the L1 systems for speech reception and production. This is the case when the L2 unit has not been acquired and the monitor fails to give the right answer. Non-acquisition is due to insufficient or non-existent input, while the failure in the functioning of the monitor may be due to either insufficient performance capacity or unavailability of a sufficient number of correct rules. There may be no rules, the rules have not been 'taught', the rules may be wrong, or the speaker may apply 'wrong' rules belonging to either L1 or L2 (or a third language). If the acquisition/learning dichotomy proposed by Krashen is correct, L1 influence on L2 surface strings may be due to the fact that (1) the string has been initiated by the acquired L1 system and the monitor has not been able to correct the string, for reasons such as those mentioned above, (2) the monitor lacks the correct 'rule' and an L1 rule is used as a repair, or (3) strings originally initiated with correct L2 acquired systems are, for some reason, mutilated by the learned system. In any case L1 'interference' in L2 means in Krashen's model that acquisition has not taken place. The process referred to in (3) above may be an exception, and we may safely assume that the L1 and L2 acquired and learned systems are closely interlinked and that the acquired and learned systems are referred to several times during speech production, which may result in highly variable performance by the same speakers in different situations. What all this implies is that what has been called interference from L1 is a complex system of interrelationships and that the research on language transfer has had a far too simple starting-point.

In most cases we have only the final product, the surface string, and the processes that have led to it remain obscure. We need methods to study the stages before the actual utterance. For instance, we can start by replicating Mahl's experiments with prevented audiomonitoring and delayed feedback. On the basis of Labov's findings it could be hypothetized that prevented audiomonitoring would result in the increase of L1 influence in the speech of non-native speakers whose acquisition level is low. Other methods are needed in which the functioning of the 'monitor' could be observed (intuitive knowledge from situations in which L2 speakers experience high states of arousal (fear, anger, etc.) speaks for the hypothesis of increased L1 influence). The preliminary experiments with Finnish speakers of English using delayed feedback and prevented audiomonitoring which were carried out by the Finnish-English Contrastive Project gave conflicting results and more material is needed before any conclusions can be drawn.

Theoretically at least, it is possible to delimit certain environmental

and other parameters which either maximize or minimize the amount of intake necessary for acquisition. There are at least four levels:

(1) *type of exposure to L2:* acquisition is at its lowest in formal teaching that is based on explicit memorization of rules and at its highest in situations of natural language use;

(2) *age of acquirer/learner:* children before the 'critical age' mostly acquire; older people can both acquire and learn, but explicit memorization of rules and their application to practice becomes more difficult with age; the same may be true for acquisition, although we lack consistent evidence (the apparent inability to acquire may be due to defective enculturation or other similar factors);

(3) *type of rule system:* the further away we go from purely grammatical competence in the traditional sense, to semantics, notional categories, pragmatics, and sociolinguistic rules, the more relative importance must be attached to acquisition; and

(4) *level of enculturation* (Schumann 1978): optimal acquisition requires a high level of enculturation or integrative motivation, while a total lack of them may block acquisition entirely.

These four criteria may occur in different combinations. It is to be expected, on the basis of what has been said above, that reliance on L1 systems is at its maximum when the level of acquisition is low (mainly because not all rules can be taught), ie. one, or all, of the above criteria works against acquisition. Therefore, errors due to L1 can be expected in greater numbers in formal classroom situations, with older acquirers/learners, in the application of pragmatic and sociolinguistic rules (which may have their impact on other rules), and under circumstances of a low level of enculturation. This may partially explain the fact that traditional contrastive analysis has not been able to predict errors consistently and that errors that have been predicted have not occurred at all.

Conclusion

If all speech is initiated by means of the acquired system, what is important for native-like speech performance is input in natural and meaningful communicative situations. Everything cannot be taught explicitly, because we lack the 'rules'.

What is then the value of contrastive linguistics? Traditional contrastive analysis — contrasting of rule systems of two or more languages — is needed for providing us with better descriptions which can be used for building up better explicit rules to be memorized by the learner, which is a way to a better starting-point as regards acquisition. CA is also necessary in the work to establish the language systems which cannot be 'learned' in the second language.

It is obvious that traditional CA must be extended to the observation of L2 speakers in speech communication with native speakers to study the parameters that affect the success or failure of communication. Their L2 speech must be compared with their speech performance in their L1 and with that of the native speakers of L2 in similar situations. Particular attention should be paid to the processes involved in speech production and perception. The interrelationship between production and reception also requires greater attention.

The value of CA is small or nil in environments of optimal acquisition, but it grows in correlation with the distance to such a situation along the parameters sketched above.

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SYNTACTIC INTERFERENCE GERMAN—ENGLISH

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The present paper[1] is intended to challenge the view that native language interference is of very little importance as a source of error in second language learning. It might seem unnecessary to defend a theory of interference, a theory that became well established over thirty years ago. Interference came under severe attack, though, several years ago and recently it has become fashionable to advocate its neglect as a source of error in second language acquisition. This view has, for example, been put forward by Burt/Kiparsky (1972) who do not consider foreign syntax to be a major factor in the learning of English as a second language; or by Dulay/Burt (1973) who note that only 3% of the errors analyzed are caused by interference, while 85% are developmental; or by Dulay/Burt (1974) who report that only 4.7% of their subjects' morpho-syntactic errors can be traced to native language interference, while 87.1% are developmental, caused by learning strategies that are also used in first language acquisition. Studies like these (see the bibliography in Bausch/Kasper 1979) have proposed some form of the identity hypothesis (i.e. the processes of first and second language acquisition are the same) and suggest that second language acquisition involves processes of hypothesis testing and creative construction, comparable to those in first language acquisition. As long as we cannot agree on what is meant by the similarity (Ervin-Tripp 1974) or identity (Dulay/Burt 1976) of first and second language acquisition processes, and as long as it is not clear whether this hypothesis is at all applicable to second language learning in its major form, i.e. in formal instructional settings, I see no reason to give up the transfer hypothesis. Even though I stress the importance of interference in second language learning in instructional settings, this does not imply that I adhere to any strong con-

[1] My thanks are due to W. Nemser, Klagenfurt and A. Fill, Graz, for valuable comments on an earlier version of this paper, as well as Ilse Kettemann who collected and prepared the data.

trastive hypothesis. I concede that the importance of interference as one of the possible sources of error in second language learning was probably overrated in the sixties, but it is precisely this fact that should prevent us from underrating it now. Instead, I claim, following Taylor (1975), Felix (1976) and Flick (1980) that the importance of interference as a possible source of error varies according to various approximative systems (Nemser 1971), or learner languages. Learners will produce more interference-caused-errors at the beginning of the learning process and in the early stages, than in the later stages. The amount of developmental errors will increase with the progress made in second language acquisition and interference will be reduced. It seems reasonable to suppose that the importance of interference also varies with the formality of the setting (from informal to formal, from natural to instructional), subjective and objective learner variables, the teaching material and many other factors. Furthermore, the role of interference is quite different with various structures and at different linguistic levels. It might be less important in the lexicon (Steinbach 1981, but is the source of many possible and persistent errors in phonology. Kettemann/Viereck (1978) and Kalt/Kettemann (1980) have shown that native language interference is an important source of error in second language phonology acquisition, when the native language used in the error analysis represents a real, spoken language and not some hypothetical standard. An analysis based on the actual language variant used has more to offer in terms of descriptive adequacy and possible explanation than an analysis based on an ideal language. Indeed it seems probable that there is very little interference from a language the learner does not actually use very often.

This study will not investigate these variables, which influence interference quantitatively, but an attempt will be made to show that interference is a clear descriptive possibility in error analysis and a sound psycholinguistic hypothesis. I will present a few examples of syntactic errors in various learner languages. I hypothesize that these errors are due to source language interference. I substantiate that claim by relating the actual source language, functioning as a filter, with the target language as input and the learner language production as output. I define syntactic interference-caused-errors as those structural elements in the learner language that are inacceptable in the target language and can be related to the target language input by source language syntactic structures, rules and features. The descriptive apparatus is derived from standard generative — transformational style. I only use shallow or surface structures, because I doubt the value of deep structures in contrastive analysis (cf. Felix 1977) and consider interference to be a performance phenomenon (Hellinger 1980) actively influencing the building and changing of transitional competences. The target language is Standard English as aimed at in the textbooks and as used in a classroom

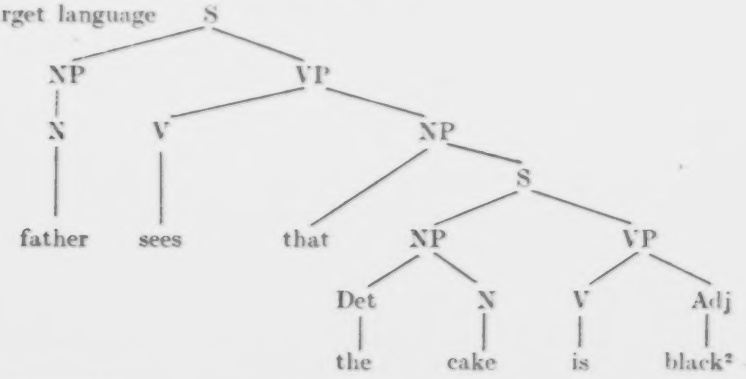
context, and as defined in grammars such as Quirk *et al.* (1972). The source language is a geographical variant of Standard Austrian German, itself a variant of Standard High German. Where the source language deviates syntactically from the standard defined in e.g. Grebe *et al.* (1973), the example is identified as dialectal. The learner language is an approximative system, in certain ways deviant from the target language. It is a system because its elements enter into rule-governed structural relations. It is approximative, because at its successive stages it comes to resemble the target language more closely. It is characterized by its permeability (it allows rules etc. of other languages to operate within it), instability (rules etc. are added etc. as learning and use increase; i.e. it is dynamic), and variability (the order, form, domain etc. of rules etc. is not fixed yet). Although I am working within Selinker's concept of interlanguage (1972), I will only use one of his five processes, language transfer, in the following arguments. This language transfer surfaces in the learner language as target language constituent reordering, restructuring, reclassification, and resubcategorization/respecification in accordance with source language rules, constraints, classes, subcategorizations and feature specifications. The data was obtained from free production of source and learner languages of forty first through fourth year students of English, aged ten to sixteen, from Carinthia, Austria.

1. Constituent reordering

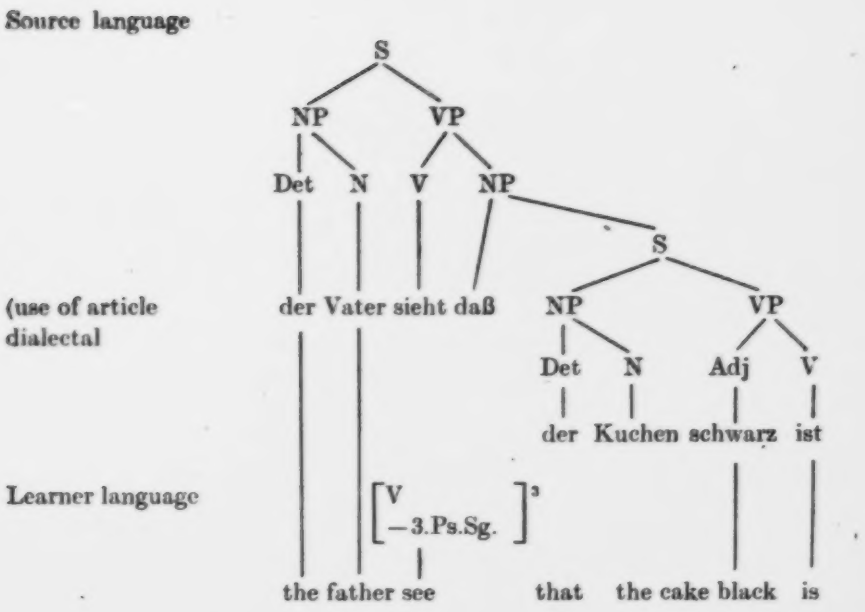
The target language constituents are reordered in the learner language according to the syntactic surface constraints of the source language. Consider the structures in (1).

(1) The father see that the cake black is

Target language

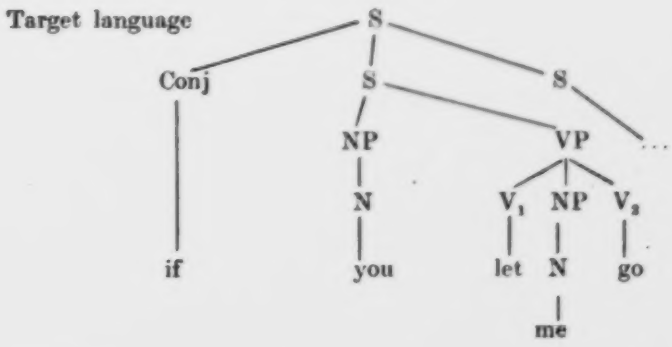


² *black* = *burnt*; note that the target language sentence already is an interference product.



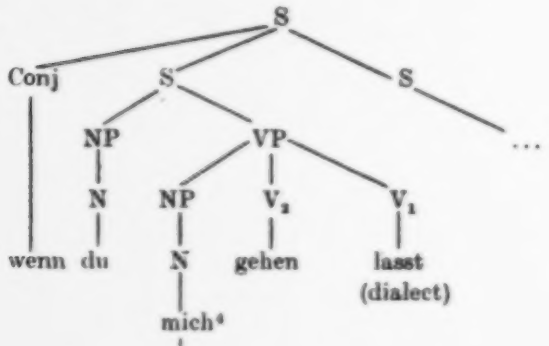
This is an example of V-postposing in an embedded sentence. The cause of this common word order error is the source language word order, where V is the final constituent of the embedded sentence. The source language postposing rule alters the target language sentence in the learner language output. V-postposing and raising interacts in the next example.

(2) When you me let go

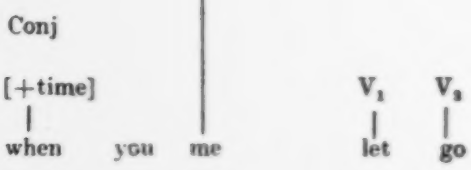


[3] This error is due to intralingual overgeneralization, thus a developmental error and will therefore not be treated here.

Source language



Learner language

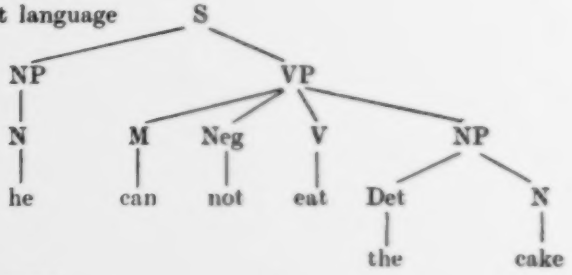


The subject NP of the embedded sentence is raised to object in the matrix sentence of the learner language in the position of the source language, but the target language ordering of V^1 before V^2 is preserved. The source language postposing rule moves the finite Verb behind the direct object, but is too weak additionally to move it behind the infinitive.

The source language V-postposing rule also operates on simple sentences, as (3) shows.

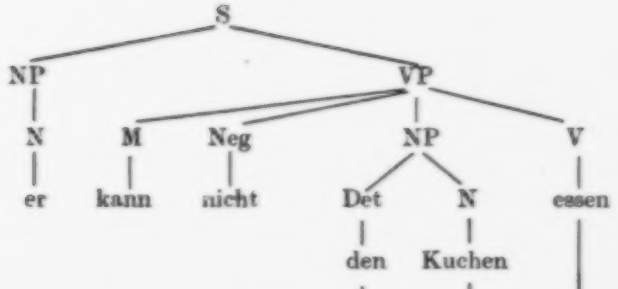
(3) He cannot the cake eat

Target language



[4] Note the typical mixture of dialect and standard in this sentence. The form of the last verb is dialectal, while the form of the pronoun is standard, resulting in something that could be called "vernacular standard".

Source language



Learner language

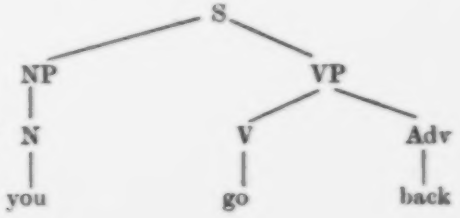
he can not the cake eat

Again the word order rule of the source language prevails in the learner language. The verb carrying Tense is in second position and the infinitive is moved into sentence-final position. The position of the Neg-particle is scopus-dependent and (in this sentence) does not cause any interference.

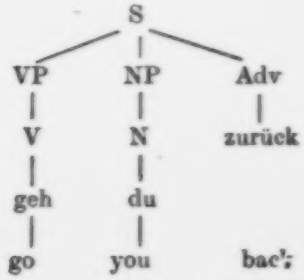
The opposite rule, source language V-preposing in imperatives without subject deletion for example, may lead to interference, too, as in (4).

(4) Go you back!

Target language



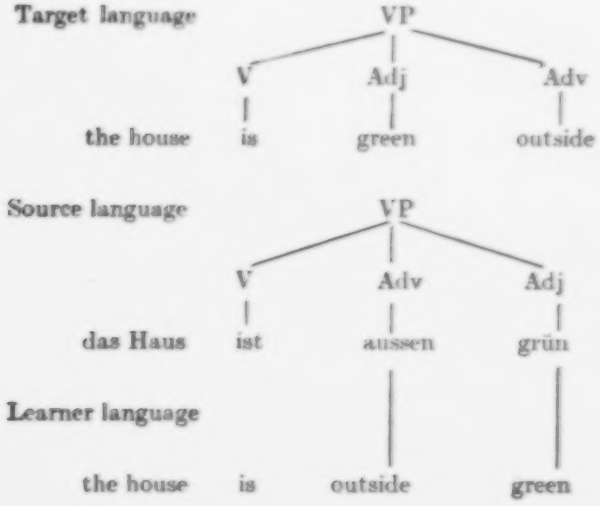
Source language



Learner language go you bac';

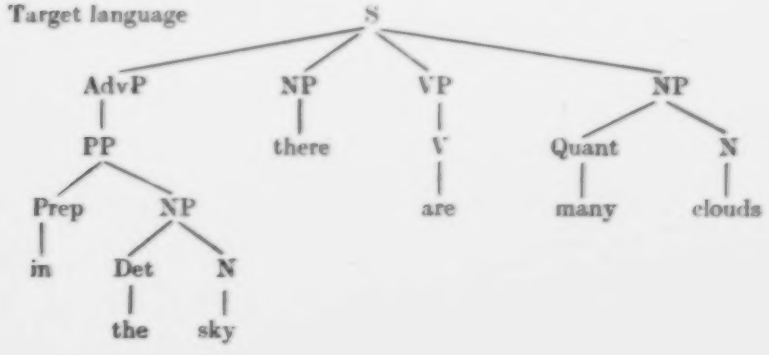
A target language syntactic surface structure constraint prohibits the separation of copula and adjective in adjective phrase complements. In the source language this constraint does not exist. In the learner language the constraint seems also to be missing as is shown by (5).

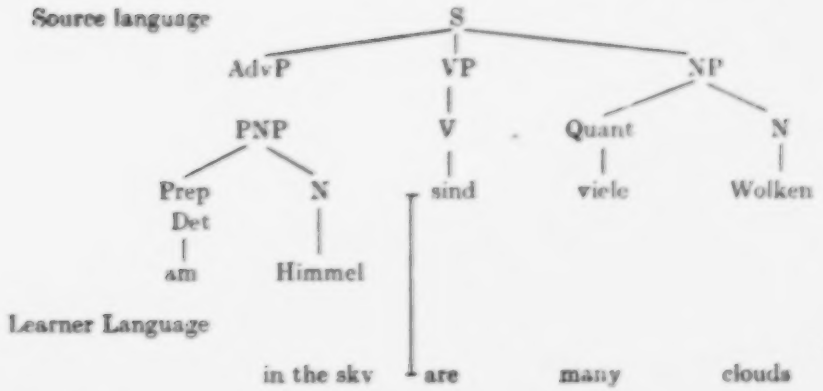
(5) The house is outside green



The different status of transformational rules in source and target languages, i.e. whether they are obligatory or optional, may lead to interference, as in (5) above or in (6).

(6) In the sky are many clouds





In the source language the subject-NP and the AdvP may be exchanged and an Existential insertion transformation is not obligatory. In the target language AdvP-preposing is only allowed after there-insertion and must be followed obligatorily by subject-NP and Verb inversion. In the learner language the rule for there-insertion is either blocked or considered optional due to source language interference. But even with all the target language rules applied, there is still room for interference, as (7) shows.

(7) There are everywhere clouds

In (7) the VP-final position of the deep structure subject in the source language prevails in the learner language production, resulting in an improper structural change after the application of the subject-verb inversion rule of the target language.

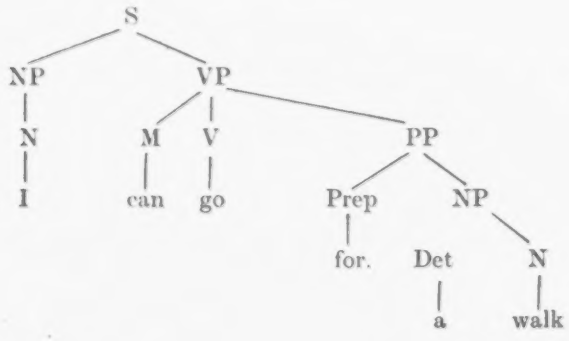
Constituent reordering, then, seems to be a viable process in the learner language. This reordering of target language structures is achieved by applying source language rules and constraints in the learner language.

2. Constituent restructuring

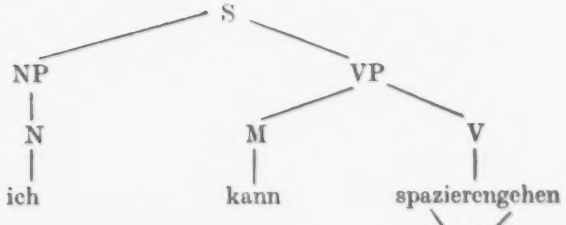
The target language constituents are restructured in the learner language on the basis of source language models. Restructuring differs from reordering in that it alters, expands, contracts, inserts, deletes constituents or parts of constituents, while reordering moves constituents. Consider (8).

(8) I can go walk

Target language



Source language



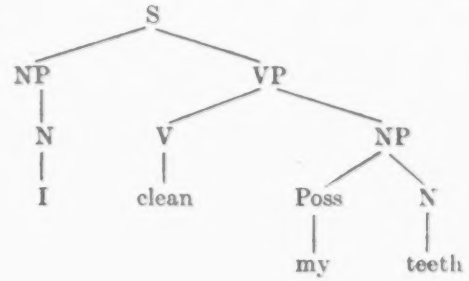
Learner language

In this example the source language VP structure is preserved intact in the learner language output. The target language PP-constituent is completely lost. The order of the ultimate constituents is identical to their order in the target language. This shows that reordering and restructuring are two separate processes in the learner language.

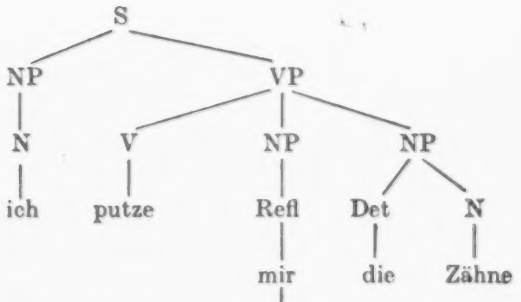
In (8) we saw that restructuring may result in deletion, in the following example a reflexive pronoun is added in the learner language:

(9) I clean me my teeth

Target language



Source language



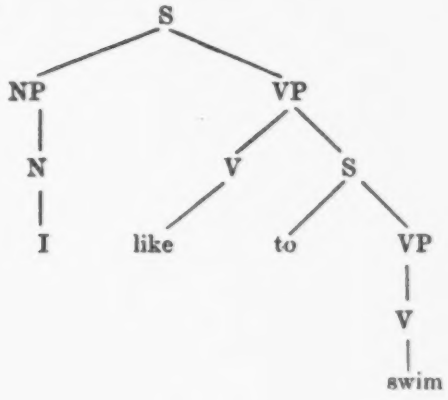
Learner language I clean me my teeth

In the source language the indirect object-NP functions as the indicator of possession in this sentence. In the target language the same function is carried by the Possessive Pronoun determining the direct object-NP. The learner language output is an additive compromise of both structural possibilities. The target language structure was preserved and expanded in order to accomodate the source language structure, too.

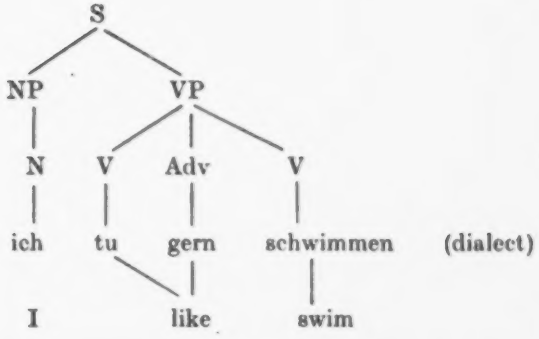
In (10) on the other hand, the target language structure is not preserved:

(10) I like swim

Target language



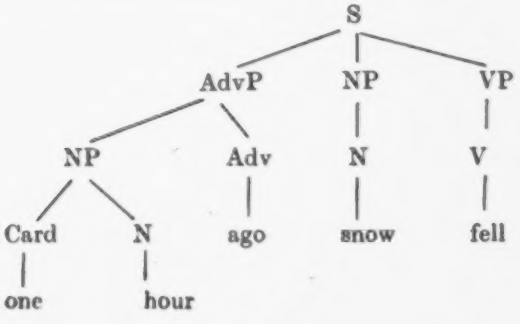
Source language



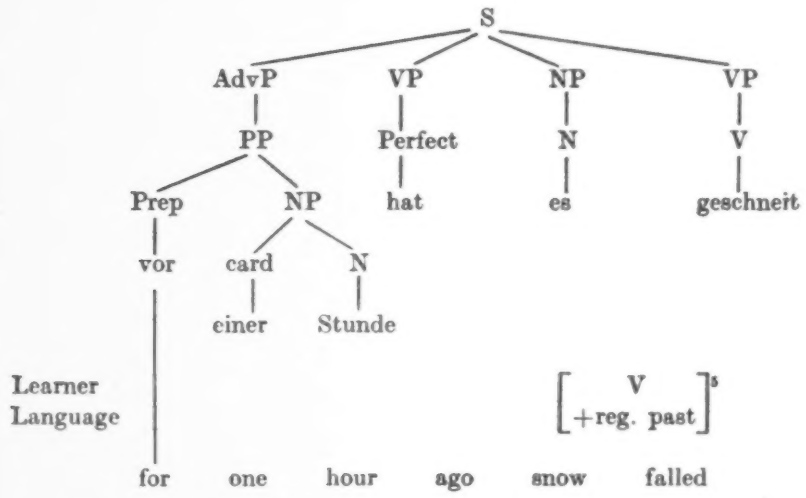
Learner language I like swim

In the learner language the infinitive is not properly embedded. The source language V — Adv construction is collapsed into the semantically equivalent target language verb.

(11) For one hour snow falled



Source language



In this example the learner language overexpands the AdvP constituent. It includes the target language adverb as well as the source language preposition. This restructuring might have been facilitated by the existence of the PP construction *for one hour* in the learner language, but it is clearly caused by interlingual interference. The classification as interference caused error is the only one compatible with the data, which abounds in learner language sentences of the type *Sunday for two weeks; Since for two days* — contexts, where the assumption of intralingual interference is implausible. In (11) learner language restructuring altered the target language structure only slightly, but restructuring may also be almost total, as in (12) where the target language structure cannot be retrieved anymore:

(12) The sun is not to see

Restructuring has erased all traces of the target language structure by taking the source language structure in toto as a model to structure the learner language output. Compare (12) with the source language *die Sonne ist nicht zu sehen*. This is no longer a case of restructuring the target language but of structure copying from the source language.

Constituent restructuring has been shown to be an active process in the learner language. By applying certain syntactic surface constraints of the source language in the learner language, the target language input is restructured.

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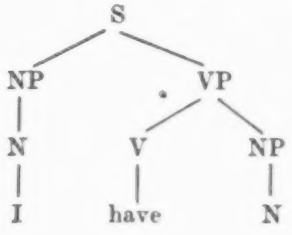
[6] Cf. note 3.

3. Constituent reclassification

The target language constituents are reclassified in the learner language so that they belong to the source language word classes. This is achieved e.g. by conversion from verb to noun or by putting a verb not so classified into the class of verbs with separable particles. Consider (13).

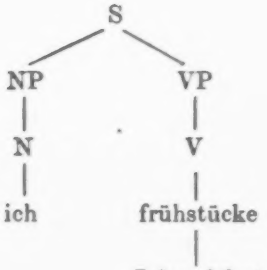
(13) I breakfast

Target language



breakfast

Source language



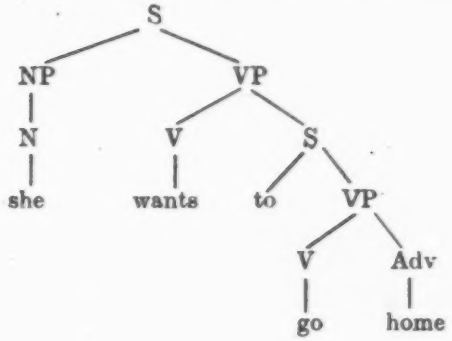
Learner language

I breakfast

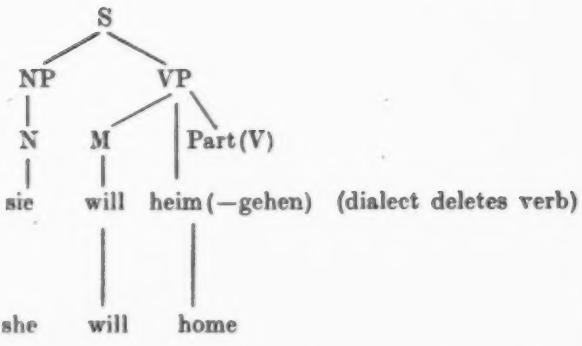
In the learner language the noun of the target language object-NP constituent has been reclassified as a verb on the basis of the classification of the source language. The learner language output structure becomes identical with that of the source language. The next example shows that not only the major word classes may be affected by reclassification, but subclassification may be changed, too. Consider (14).

(14) She will home

Target language



Source language

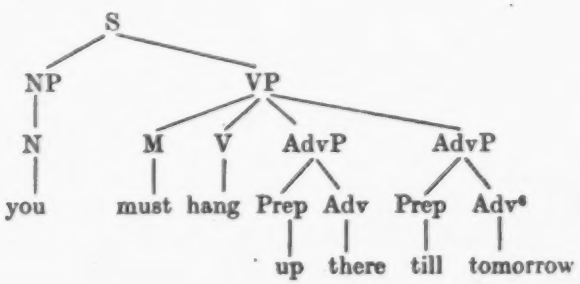


Learner language

In the learner language output *home* has been reclassified from the target language adverb into a verbless verbal particle following the source language classification, and additionally, the source language volitional modal verb is introduced into the learner language structure.

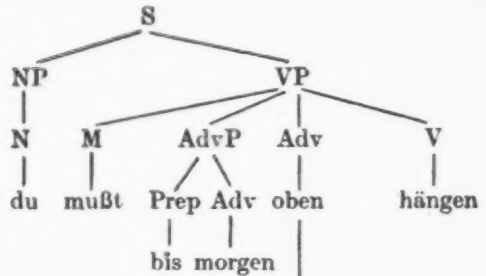
(15) You must hanging up till morning

Target language

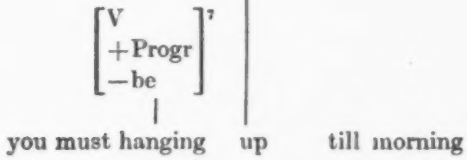


* The structural function of these verbs is noun-equivalent (cf. Onions 1971).

Source language



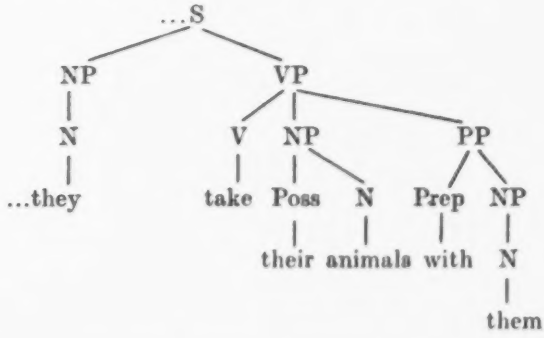
Learner language



This learner language output shows that *up* is reclassified from target language preposition to adverb according to the source language classification. In the source language the Adv *morgen* and the N *der Morgen* are identical in form. The learner assumes that the same fact holds true for the target language, producing the Adv *morning* instead of *tomorrow*. This is a lexical mistake, though, and will not be treated here.

(16) The children go to a pet-show and they take his animals with

Target language



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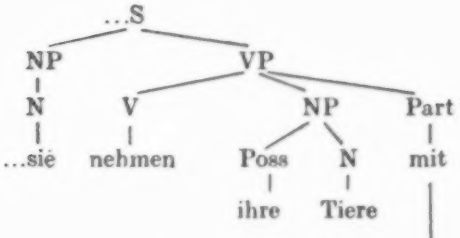
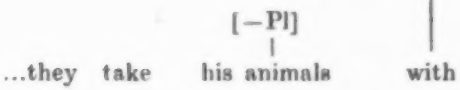
[1] Whether this is the proper learner language specification is not quite clear, but plausible, cf. *he is go* where *go* is $\begin{bmatrix} V \\ +\text{Progr} \\ -\text{ing} \end{bmatrix}$.
A weaker claim would assume a specification like e.g. $\begin{bmatrix} V \\ -\text{finite} \end{bmatrix}$.

Source language



Learner language

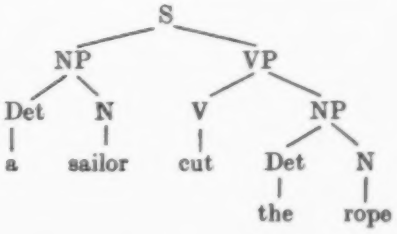


In this example *to take s. o./s. th. with s. o.* is reclassified in the learner language as belonging to the class of verbs with separable particles like *to call s. o. up*. This way the target language prepositional phrase becomes reduced to the mere particle in the learner language output following the source language verb classification. The preposition is reclassified as a particle.

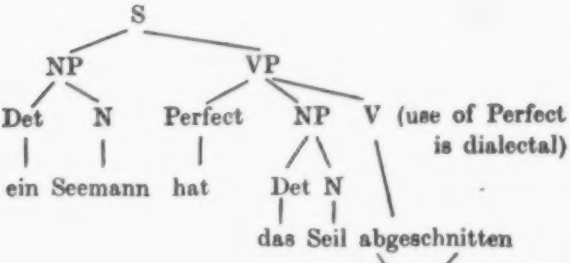
The next example shows that reclassification need not change the constituent structure of the target language sentence drastically. In (17) only V is expanded by the particle.

17) A sailor cut up the rope

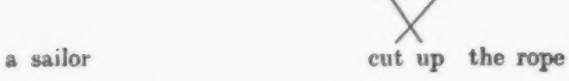
Target language



Source language



Learner Language



Source language $\begin{bmatrix} V \\ \underline{\quad + \quad NP} \end{bmatrix}$ Ich sage ihm:...

Learner language $\begin{bmatrix} V \\ \underline{\quad + \quad NP} \end{bmatrix}$ I say him:...

In the target language the Dative-Movement transformation is not applicable with *say*. *say* can only be followed by a PP. In the source language, on the other hand, *sagen* can be followed by a dative object directly. The source language subcategorization of the verb prevails in the learner language: The verb has been resub categorized.

(20) I can see a traffic

Target language $\begin{bmatrix} N \\ +\text{common} \\ +\text{Det}\text{——} \\ +\text{def} \end{bmatrix}$ I can see the traffic

Source language (dialectal) $\begin{bmatrix} N \\ +\text{common} \\ +\text{Det}\text{——} \\ -\text{def} \end{bmatrix}$ Ich seh /an fakea/[10] (einen Verkehr)

Learner language $\begin{bmatrix} N \\ +\text{common} \\ +\text{Det}\text{——} \\ -\text{def} \end{bmatrix}$ I can see a traffic

The target language direct object-N is resubcategorized to be preceded by a [-def]article. This process is triggered by the source language dialectal subcategorization. In standard German, as well as in the target language, this subcategorization is not grammatical in this context.
In the following example the syntactic/semantic feature [directionality] is respectivicified in the learner language.

(21) The stranger pushed him in the water

[10] Note the difference to Tyrolian [en] which derives from a definite article. Carinthians use the indefinite article.

In this example the verb-particle construction is taken over from the source language into the learner language output. The target language simple verb is reclassified as V+Part to fit the source language frame. Yet, the learner language VP-structure preserved the target language order of constituents.

These few examples should have been sufficient to show that constituent reclassification is another productive process in the learner language. It changes the target language word class or subclass into that of the source language.

4. Resubcategorization and Respecification

Resubcategorization is a learner language process that alters the subcategorization of target language elements according to their subcategorization in the source language. I also include here the change of syntactic features or their specifications. Consider (18).

(18) The Pat bake a cake

Target language	$\begin{bmatrix} \text{N} \\ +\text{proper} \\ -\text{Det} \end{bmatrix}$	Pat bakes a cake
Source language	$\begin{bmatrix} \text{N} \\ +\text{proper} \\ +\text{Det} \end{bmatrix}$	Der Patrick backt einen Kuchen (dialect)
Learner language	$\begin{bmatrix} \text{N} \\ +\text{proper} \\ +\text{Det} \end{bmatrix}$	[−3.Ps. Sg.][8] The Pat bake a cake

In the source language dialect proper nouns are subcategorized to be preceded by the definite article. In the target language proper nouns are not preceded by Det. The source language subcategorization is carried over into the learner language. In German Det is optional in this context. See also (1).
Or consider (19).

(19) I say him:...

Target language	$\begin{bmatrix} \text{V} \\ -\quad\underline{\qquad}\ \text{NP} \end{bmatrix}$	I say to him:...[9]

[8] Cf. note 3.

[9] Assuming the target *say*, I exclude other possible interpretations, e.g. as intralingual lexical error with the target *tell*, because they seem to be less plausible in this context.

Target language The stranger pushed him into the water

$$\begin{bmatrix}\text{Prep}\\ +\text{direction}\end{bmatrix} \quad \begin{bmatrix}\text{Det}\\ +\text{def}\end{bmatrix}$$

Source language Der Fremde stieß ihn in das Wasser

$$\begin{bmatrix}\text{Prep}\\ \pm\text{direction}\end{bmatrix} \quad \begin{bmatrix}\text{Det}\\ +\text{def}\\ +\text{direction}\end{bmatrix}$$

Learner language The stranger pushed him in the water

$$\begin{bmatrix}\text{Prep}\\ \pm\text{direction}\end{bmatrix} \quad \begin{bmatrix}\text{Det}\\ +\text{def}\end{bmatrix}$$

The target language specifies the feature [directionality] in the prepositions *in* and *into* with opposite values: *into* as [+direction] and *in* as [-direction] (except in combination with certain words of motion, e.g. *put it*). In the source lanuage this contrast is neutralized in the preposition *in*. Directionality is specified by the following Det in the source language in (21): *das* is specified as [+direction] and *dem* is specified as [-direction]. The targeret language determiner remains unspecified for directionality. In our example the two source target language equivalents would be:

source language $\quad \text{in}\begin{Bmatrix}\text{das} : \text{into}\\ \text{dem} : \text{in}\end{Bmatrix}\text{the} \quad$ target language

For his learner language output the student selects source language *in* because of its phonological and semantic similarity, but fails to recognize the syntactic difference in the interaction of preposition and determiner in source and target languages. He combines the directionally neutralized source language preposition with the directionally unspecified target language determiner in his learner language. In the learner language, then, directionality remains unspecified. If it is analyzed according to target language rules, then (21) must be interpreted as nondirectional. Resubcategorization and respec ification have been shown to be productive processes in the learner language, altering the subcategorization and the feature specification of target language constituents according to their source language subcategorization or feature specification.

I have presented these examples to show that source language rules, constraints, classes, subcategorizations and syntactic feature specifications

can be used to relate the learner language to the target language. I now claim that this descriptive device also reflects what actually happens. At the beginning of the process of second language learning, the learner uses the full grammatical knowledge etc. available to him to analyze and produce novel (=target language) sentences. The greater part of that "knowledge" consists of source language rules etc. The insecurity in the analyzability of the target language and the uncertainty in the applicability of target language rules may lead to the activation of source language knowledge. This strategy can be helpful (transfer) or a hindrance (interference) in target language analysis or production via the learner language. Learner language monitoring will increase with the progress made in target language acquisition as more new rules are learned and old ones become automatized. The learner language will become more and more independent of the source language and will become more and more dependent on the target language.

The examples, taken from data of the early stages of second language acquisition, were chosen to show the activation of source language knowledge in the learner language that results in target language inacceptability. The description and the interpretation are compatible with the data. Interference, then, may trigger a variety of learner language syntactic processes in a considerable number of instances in a wide variety of learner languages over a prolonged period of the acquisition process.

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